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2.41 Pioneer Seed Co. Dimond Lake, Mich

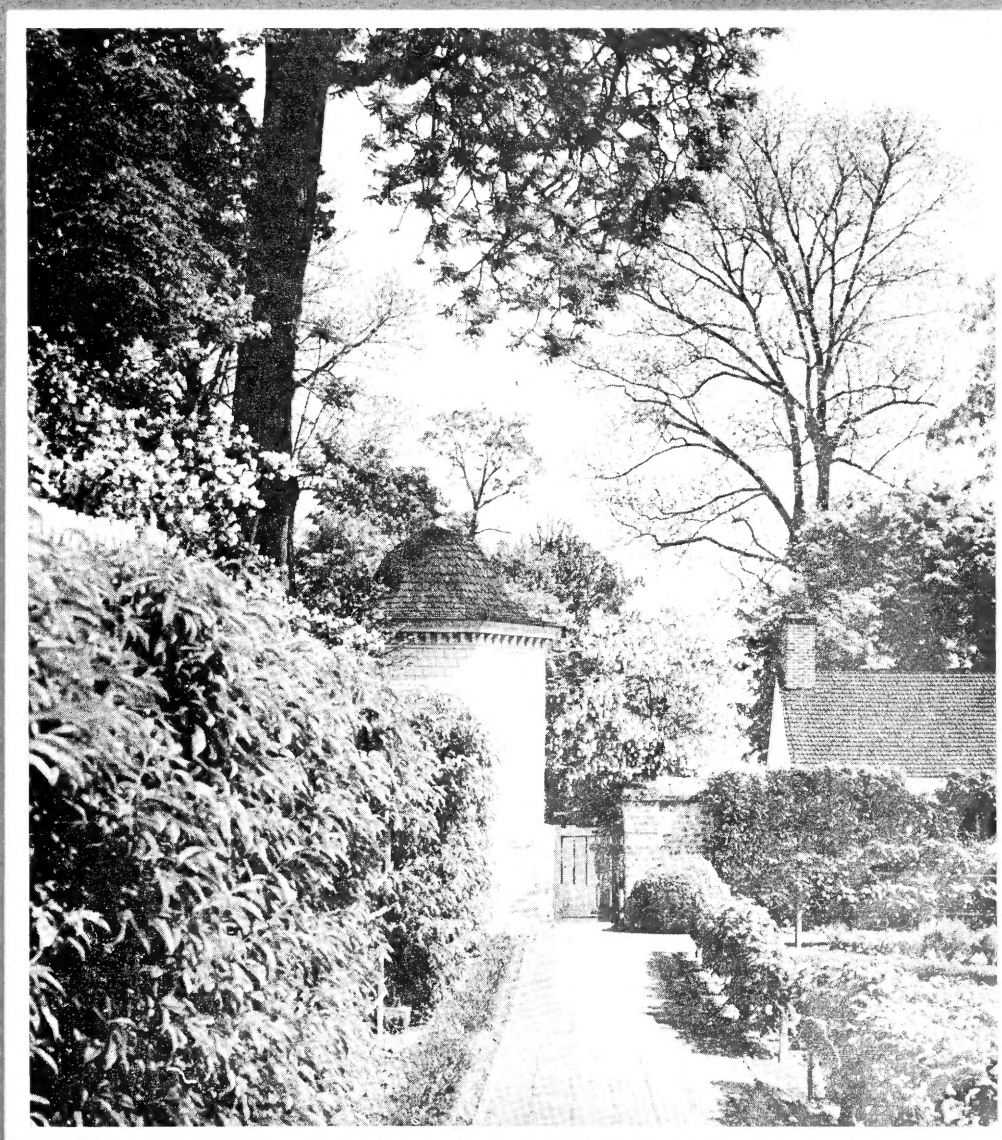
Saier's GARDEN MAGAZINE

A MANUAL OF RARE FLOWERS, THEIR SELECTION AND CULTURE

Vol. 3, No. 3

July, 1952

25 Cents



The Gardens at Mount Vernon.

The Special Iris Edition

It is Perennial Seed Planting Time

40 YEARS
of
EXPERIENCE

Perpetual Dianthus Allwoodii Alpinus

Dianthus under this classification are crosses made between Dianthus Allwoodii, which are hardly perpetual flowering Pinks, and such species as Wiimmerii, alpinus, caesius, fragrans, etc. The object was to get a dwarf growing plant with a silvery foliage but perpetual flowering. They are a new race and naturally very much but the plants are certainly all beautiful.

Seed and cuttings are best started during the summer and the buds should be kept pinched off during the balance of the year. The soil should be on the gritty side and alkaline.

In preparing soil or a bed for them, always add lime to it at this time. Wood ashes is excellent fertilizer to work into any Dianthus bed. Leaf mould may tend to make the soil slightly acid which should be avoided in Dianthus beds.

A well drained loamy soil, on the gritty side, is ideal Dianthus soil. It also is best to grow Dianthus on raised beds; they require perfect drainage.

Growing Clematis

The following is in addition to the Clematis article on page 225, which was over looked at time of printing.

The growing of the large flowering types of Clematis, especially, much attention should be given to the soil. If it contains stones and rubbish, it will be impossible to accomplish and the best thing to do would be to remove a space of 3 square feet of the soil and down to good moist subsoil and fill in the space with good loam. This should really be done the fall before setting out your Clematis, so that the soil particles will be together and unnecessary air pockets have been expelled by the winter frosts.

The practice of covering part of the top soil with flat stones should be tried out by Mr. Payton, on a few plants that are in especially dry locations. These stones need not be exposed if not wanted; merely cover with a few inches of soil. In our own plantings we find it necessary to set out many plants, alpinus especially, by the side of a stone, some on the south side and other kinds on the north side and without this sort of treatment, they would not flourish.

The various species of Clematis are not as a rule as hard to grow as the large-flowering types, in fact many are found in the worse possible places in nature. Many are very beautiful and what is still more important is the possibility of doing hybridizing. So many species, while beautiful, can stand a great deal of selection and pure color strains developed as well as the establishing of other characters and this possibility opens up a large territory for those short on space as well as money. It has always been the desire of this magazine to further this sort of work but we will have to admit that too few readers are actually interested.

We might add that most all Clematis prefers full sun but cool feet, very much as with Lilies and in the ordinary small plantings, a location north of some leafy plant, as Mr. Payton suggests, solves the problem of too much heat and dryness at the base of the plant. Shrubs or other plants that have strong root systems and thus draw heavily on the soil moisture, would, of course, never be used:

CLASSIFIED ADVERTISEMENTS

We wish to make this classified section of special value to our readers who may have plants, roots or any other item that they wish to sell or exchange.

The charge will be 20¢ per line of seven words, per insertion; four insertions at price of three. When offering plant material know your nursery laws.

PLANTS FOR SALE

AFRICAN VIOLETS: Roseonna leaves 4 for \$1.00; Gypsy leaves 7 for \$1.00. Unnamed African Violet seedlings, watch them bloom, 4 for \$1.00. Add 35¢ postage on all orders. Many old and new varieties, plants and leaves. Send stamp for list. Mrs. Sophia Baker, 2733 S. E. 35th. Pl., Portland, 2, Oregon. (Dept. S) 9

ACTINEA HERBACEA (Lakeside Daisy) 3-\$1.25; 10-\$4.00. Gentiana Andrews alba (White Closed Kentian) 3-\$2.00; 10-\$6.00. Postpaid. **AMERICAN PERENNIAL GARDENS.** Box 37, Garden City, Mich.

POINSETTIA ROOTED CUTTINGS, for Christmas blooming, variety of reds, pink and white, for potting or garden planting. Cultural directions. 25 for \$3.50, 50 for \$6.50, 100 for \$11.00, FOB Kissimmee. Small orders 3 for \$1.00, postpaid. **PHILIP PATE, KISSIMMEE, 14, FLA.** (22)

AFRICAN VIOLET LEAVES. 12 for \$1.00 named varieties, plants 3 to 6 in. tall 3 for \$1.00, my choice. Gypsy Series leaves 20¢ each 7 for \$1.00; plants 2 for \$1.00. Roseonna leaves 3 for \$1.00; Please add 25¢ postage. Mrs. Sophia M. Baker, 2733 S. E. 35th Place, Portland, 2, Ore.

CUTTINGS: \$1.50 per dozen; house plants mixed or Begonias or Sweet Scented Geraniums, Mints, herbs, wild ferns; pre-paid. Mrs. H. C. Sanborn, RFD 1, Thetford Center, Vt.

COLEUS CUTTINGS, RARE AND FANCY varieties; 50 assorted cuttings \$1.00 plus 20¢ postage. Sultana cuttings same price. A. T. Linder, 521 Nathan Hale Rd., West Palm Beach, Florida. ap

AMARYLLIS BULBS

AMARYLLIS GIANT HYBRIDS, mixed colors bulbs, also seedlings, offspring of Dutch and Mead strain. Prices on request. Philip Pate, Kissimmee, 14, Florida. 20

SEEDS FOR SALE

JOES BULLETIN, issued bi-monthly, tells you where you can buy flowering and ornamental plants, shrubs or bulbs at half of standard catalog prices. Two years \$1.00. Sample free. 1854 24th Ave. N., Seattle, 2, Washington. (22)

HERB SEEDS AND PLANTS: We specialize in raising herb seeds and grow all popular and many rarer kinds. Also field-grown perennial herb plants. Our descriptive folder lists many varieties at reasonable prices. **PLANTATION GARDENS, RFD 2, Box 193, Lynchburg, Virginia.**

DAYLILY SEEDS hand pollinated from choice hybrid reds, rose, pastels. Fresh seed (mixed only) 10 for 30¢; 40 for \$1.00. Ffoulkes, 610 Bryan, Jacksonville, 2, Fla.

RARE PLANTS. If you grow rare plants you will find these columns your best outlet. Try a small ad and see.

TREE AND SHRUB SEEDS: We carry in season over 800 tree and shrub seeds; if you need these seeds be sure you get our list. Pioneer Seed Co., Dimondale, Mich.

BEAUTIFUL INDIAN ORCHIDS Himalayan Flower Bulbs, Anemone, Sternbergia, Iris, Tulips, Unusual charming seeds. G. Ghose & Co. Townend, Darjeeling, India. 19

GLADIOLUS BULBS

GLADIOLUS BULBS. List your surplus bulbs in the classified; it will pay you.

SPRINGGLADS: Hardy Eurasian Species, fall planted, bloom in spring without thrips. List 16¢ free. Philip O. Buch, Rockaway, New Jersey.

DAHLIA ROOTS

DAHLIA TOES. List your Dahlias in the classified section NOW. It pays.

MAKE USE OF THE CLASSIFIED SECTION - IT'S YOURS

SPECIAL COLLECTIONS

TEN PACKETS (our selection) **ALL DIFFERENT**, and all the very best flowering **PERENNIALS.** These are all from our regular seed list and all are high class perennials and would cost you more than twice if purchased separately. **FOR \$1.50** **TWENTY PACKETS**, all different (our selection), same type as above **FOR \$3.00**

All suitable for starting up into August or they can be sown as late as September if given some protection during the winter; such as a cold frame.

TEN PACKETS of **BEAUTIFUL FLOWERING TREES** and **SHRUBS**, suitable for growing in South Florida, Texas or California.

...These are mostly Menninger flowering trees and shrubs so well known in Florida. The Collection is a rare one and should be of interest to all those having homes in the far South.

TEN PACKETS for only \$3.00; **15 PACKETS**, all different, for only \$4.00

A good sized packet of **FIVE VARIETIES** (our selection) of the famous **PACIFIC GIANT DELPHINIUMS** for **ONLY \$1.50.** These, if purchased separately, would cost you from \$5.00 to \$10.00. A special offer to our readers. Put seed in a sealed container and place jar in the refrigerator till sown. Sow seed in milled sphagnum for best results; place seed pans in a dark place till germinated when it should be moved to the light.

SPECIAL OFFER TEN DYKES WINNING IRIS

ALL TEN FOR ONLY \$4.00

Here is a very special offer! We will send your **TEN RHIZOMES**, all different (our selection) and each one a **DYKE'S WINNER**, thus all top-notch Iris. If you want to start in an Iris Collection, here is your chance to get started right; the regular value of these rhizomes would be much higher if purchased separately.

MY ADVENTURES IN CLEMATIS

Every gardener no doubt has problems in overcoming certain limitations of his garden, or attributes of his own make-up. My difficulties arise trying to couple my very limited space with my desire to have something blooming throughout as much of the year as possible. And in spite of reading here and there that such a problem is impossible of solution, I feel that I have not done badly. In addition, I have surrounded my 275 square feet of soil with what I suspect is one of the most complete collections in this part of the country of my gracious and charming favorite, Clematis.

During 1951, the first snowdrop greeted me on February 20th. From then throughout the entire year flowers of some sort were in continuous bloom. The last shivering Dianthus finally gave up on January 6th, 1952, after having come through temperatures below 10 degrees of frost, twice in December. Two weeks later, on January 21st, the first 1952 snowdrops (Kalanthus Elwesi) came into bloom. As spring progresses I look forward to a succession of Crocuses, Daffodils, Muscari, Crown Imperials, Hyacinths, Ipheion, Tulips and other bulbs. After them will come Heuchera, Lilies, Callirhoe and summer annuals. Last season 180 varieties bloomed; many among them were unusual fellows not often seen. I cannot resist trying new things from seed.

But my chief joy are the Clematis. I recognize that there are flowers surpassing them in various respects, in delightfulness of fragrance, brilliance of color or otherwise, but all things considered, the combination of delicacy, graceful charm, exquisite coloring, refined grandeur of display, together with an unusually long blooming season, which comes with Clematis, have entirely captivated me. Moreover, for me, they excel in beauty per square foot of planting space, and for a prolonged season. That is exactly to my liking.

My garden is new and my plants all young. Many are not old enough to bloom, but even so, in the past summer seven plants, among themselves, produced flowers continually from May 6th until November 30th. With more maturity, I expect fewer plants will provide a longer succession than that. If only because these vines produce a display during the weeks following the roses, when other flowers seem to reach a low ebb, many gardeners are depriving themselves of real pleasures by neglecting to grow Clematis.

Of the large-flowering hybrids, Jackmani seems to be the popular favorite. Driving through the summer countryside between Maryland and Illinois, it is the only variety I have seen (and not very many of it). Jackmani does give a gorgeous display of velvety purple unequalled among flowers, to my knowledge. But other varieties have both prettier flowers, and, for me, a longer blooming season. Not enough of my collection have reached blooming size for me to render judgment as to "the best" variety, but these at least are particularly charming: Lady Northcliffe, Ramona, The President, Ville de Lyon, King Edward VII. I have no doubt there are even more charming ones, but I cannot speak from experience now. I have read of a variety producing white flowers more than 11 inches across, but none of mine are so gigantic.

The books seem to regard Clematis as somewhat harder to grow than other plants.

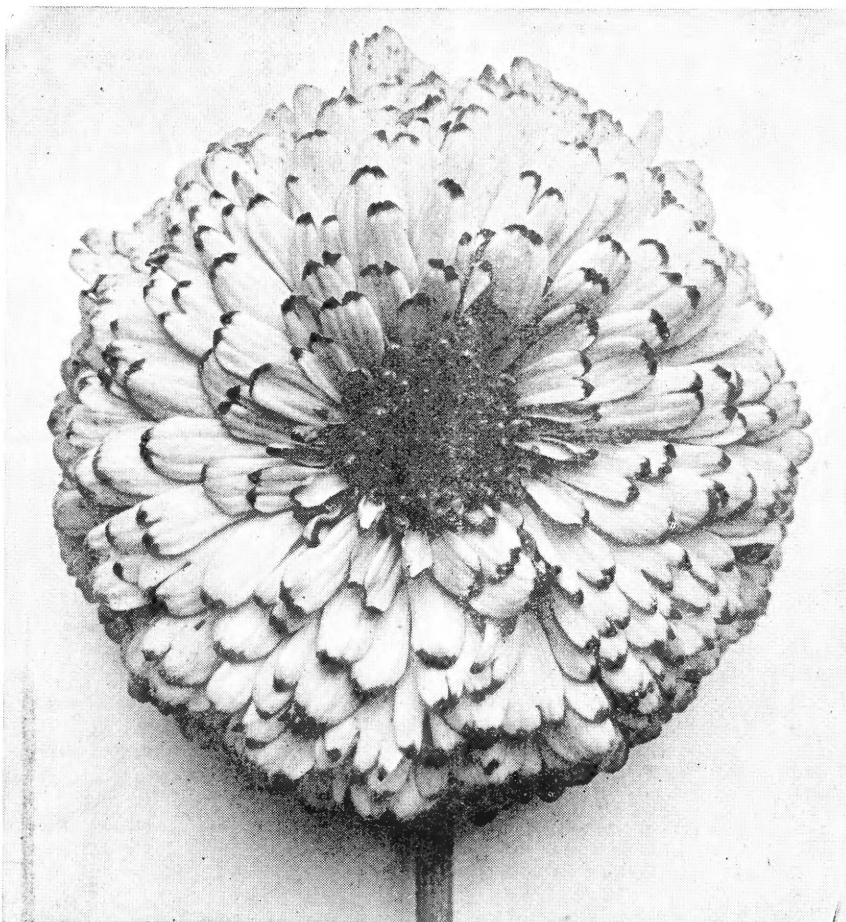
By Joseph F. Paydon, Md.

They may be, but I have not found them hard to manage here so far. My spot doesn't seem to be one that the books would regard very favorably, either. Clematis are supposed to require a cool root-run, and I do make an effort to provide that, either by keeping a mulch around them, or by planting leafy perennials near them on the sunny side: But it is hot in Ann-

ly produce blossoms. In a few years when these vines become better established, I suppose I will be overwhelmed by the riotous display.

I would be delighted to correspond with anyone who is interested in these beautiful vines.

Editor's Remarks: The matter of keeping the roots cool is especially important with the large-flowered Clematis. This is best accomplished by a good mulch.



The GIANTS OF CALIFORNIA ZINIAS are about the most popular Flower

apolis, and cool root-runs are hard to come by, by any method. Moreover, I have had to leave them entirely untended for extended periods during the heat of the summer. Yet they have grown well. My soil is light and dries out quickly in the summer; probably some watering during the weeks when I am not here would be a cultural improvement. I certainly have no reason to call them harder to grow than most other things I have.

I have set out the purchased plants in the fall and my greatest loss has been that some of them did not start out the following spring. The reason isn't clear. Other than this, only one plant has died and one other was broken off by dogs and did not survive.

During the coming season I hope to have growing here 65 or more different varieties of Clematis, nearly all being the large-flowering types; fifty of these will like-

PRUNING THE LILAC

After a Lilac has become established it is very important that they be pruned regularly. Do this twice a year, first just before the flowers open, removing suckers and weak inside shoots and secondly, right after they have flowered.

Remove all old flower heads and any superfluous shoots recently started. Leave as a rule 2-4 shoots below each flower head. If attended to promptly, the flowers for next season will form better and more uniform display will be had.

Remember Lilacs flower on the previous year's growth only and thus early spring pruning as well as in the fall only cuts off flowering wood.

ORDER YOUR IRIS NOW

Now is the best time to order Iris; you will get what you want and as dug.

Saier's GARDEN MAGAZINE DIMONDALE, MICHIGAN.

Vol. 3, No. 2. (8) JULY, 1952.

SAIER'S GARDEN MAGAZINE is owned and published by Harry E. Saier, Dimondale, Michigan.

Subscription price \$2.00 per year of 12 copies. Special offer to Clubs.

Send all orders for seeds, etc., to the Pioneer Seed Company, Dimondale, Mich.

The figure (8) above represents the number of the issue and as soon as time will allow all address stencils will have the expiration number in the right upper corner. This will enable subscribers to tell how many more issues are coming to them.

Did you receive a sample copy? If so you should subscribe if you wish every issue. We cannot send them out gratis, the cost is too great.

NOTABLE ENGLISH GARDENS

The importance of water in the garden has long been recognized by garden makers and this formal lily-pool (picture on January-February cover) in the garden of the late Mark Fenwick, at Abbots Wood, Stow-on-the-Wold, in the county of Gloucestershire, is a splendid example of this form of gardening.

This garden, now in the possession of Mr. and Mrs. Ferguson, has long been famed for its collection of rare plants and shrubs, and for the skill which created such perfect settings for the flowers. Like so many English gardens it excels in the naturalness of its layout, but in its more formal parts it is second to none in charm:

Such pools as the one illustrated in the January-February cover, offer opportunities for the use of many very decorative plants, and the careful placing of groups of Irises and other tall growing water plants will be observed, together with effectively placed water lilies, all forming a decorative front to the beautifully designed and executed arched background built from the lovely Cotswold stone which mellows with age to a glorious warm ochre, and is so well used in many of the charming houses to be found in this part of England.

By Will Ingwersen, England

ABOUT SKIPPED ISSUES

You have noticed that some months have been combined of late. That does not mean that it is to be two issues on your subscription; you will receive 12 issues for the \$2.00 subscription price. It is our wish to get them out every month but costs, labor and many other items that go to make up the magazine, are such that we are forced to double up the last two issues. The magazine was first published with the thought that it would make an outlet and also a source for all the difficult and hard-to-find seeds. To be a success we will have the cooperation of all those interested, even if it is just a subscription. In some flower clubs many subscriptions have been sent in. Where there is an interest in a Club, we will be pleased to mail sample copies.

BRUNFELSIA CALYCINA floribunda

H. W. Johnson of Johnson's Nursery at La Mesa, Calif., writes that he has 2½ inch pots of this plant as well as of *Ochna megapotamica* also in several varieties is generally available.

LOBELIA AND PRIMULA

LOBELIA. (loh-BEE-lee-ah)

Annuals and perennials, flowers generally blue or red. For garden purposes they are divided into 2 classes, the annuals being most popular, are used as greenhouse plants, in beds and also as edging plants. They are tender plants.

—Queen Victoria. Dark red fol; bright red fls; attractive; 4-5 ft; HP..... LOB-6V. 25¢
—cardinalis. Red Lobelia; striking; blaze of red fls; 6 ft; HP..... LOB-6. 20¢

L. ERINUS: Edging Lobelia; annual, 4-12 inches high, partially trailing, with flowers in blue shades with white or yellowish throats that come true from seed and which produce stronger and more robust plants than do those from cuttings. Start seed indoors for early flowers.

—Blue Gown. Dwarf, compact, sky-blue flowers..... LOB-1BG. 15¢
—Blue Stone. NEW; dwarf plants covered with clear blue fls; RG..... LOB-1BS. 20¢
—Cambridge Blue. Compact; clear light blue; pretty in rockery..... LOB-1CB. 15¢
—Crystal Palace. A compact deep rich blue; dark foliage; 4" tall..... LOB-1CP. 15¢
—Dorothea. A dwarf strain in bishop-blue or violet..... LOB-1D. 15¢
—Emperor William. A dwarf compact variety in Cornflower-blue..... LOB-1W. 15¢
—Hamburgia. Pale blue and especially fine for baskets..... LOB-1H. 15¢
—Mrs. Clibran. Extra dwarf, dark blue, large white eye; attractive..... LOB-1S. 15¢
—Prima Donna. A rich velvety maroon..... LOB-1C. 15¢
—Primula splendens. A new German variety; dark velvety purple-violet flowers with large white eye; highly recommended; 4 inches high..... LOB-1PD. 15¢
—White Lady. A compact well formed pure white variety..... LOB-1P. 20¢
—Sapphire. Dark blue, with large white eye; showy in baskets..... LOB-1WL. 15¢
—Lobelia Blend. A blend of all varieties..... LOB-1S. 15¢
—Lobelia Blend. A blend of all varieties..... LOB-X. 15¢
PAEONIA (Peony) hybrids. Single, semi-double; crested..... PAEO-15. 50¢

PETUNIA.

There is hardly any other flower that will give so much bloom with as little care as will the Petunias; in the hot summers, their bloom is continuous. Their use is confined to porch boxes and baskets and for bedding. They do not do well in shade.

The chief pitfall the amateur runs up against in growing Petunias is in the seed sowing; almost invariably they bury the tiny seeds too deeply so that the sprouting seedlings cannot possibly fight their way to the surface. First the soil should be a good loamy texture with fine leaf mold mixture for the top. Flower pots, the shallow type or fern pot, makes an ideal seed pan; place some drainage material in the bottom and fill to the top with the above soil, then press down and level off, carefully sow seeds on top of this soil, using a little soil with the seeds to get a better distribution of the seeds, then give a fine sprinkling of sand over the seed, not over 1/16 inch at most, pressing this down gently so that the seeds will come in contact with the soil particles. This work should really be done a day before planting the seed, when the soil can be well watered and the pot soaked with water, letting this stand over night, before sowing the seed. Then, after the seed is planted, place a pane of glass over the pot to prevent the loss of moisture, but watch carefully for too much condensation of water on the glass, which should be removed daily and the seed bed given ventilation. The pot should be in a place with about a 60 degree F. temperature and exposed to the light; germination shows in about 10 days, when the seedlings should have light and ventilation; if the soil was properly watered at the beginning it usually is not necessary to rewater during the germination period. In too dry a place it will be best to protect the flower pot from too much drying out. When seedlings show 3-4 leaves, transplant to a flat containing good soil with plenty of humus worked into it and for still better plants, it is well to transplant them again after they get a good root system started, placing them into 2-3 inch pots. Petunias require plenty of sunshine; transplant to the outside after all danger of frost has passed.

DWARF GIANTS OF CALIFORNIA: Huge giant flowers on dwarf sturdy plants, especially bred for pot culture. The "Ramona Strain" is the best grown to date.
—Dark Shades..... PET-1DS. 50¢
—Light Shades..... PET-1LS. 50¢
—Dark and Light Shades..... PET-1DL. 50¢
—Dwarf Giant-Flowered Mixed..... PET-1GX. 50¢

GIANTS OF CALIFORNIA: The largest flowers among Petunias, heavily ruffled with heavy, robust growth and excellent for both florist and garden use.
—Paramount Giants. Free flowering; light and dark shades best; showy..... PET-2P. 50¢
—Special Blend. Light and dark colors; beautifully veined; heavily ruffled; 1/16 oz. \$5.00..... PET-2S. 50¢
—Extra Dwarf Mixed. A fine strain for pots..... PET-2DX. 50¢

GRANDIFLORA, Large Single Fringed: Strong, free flowering 12"-16" plants, some varieties spreading, others compact. Many plain edged flowers of heavy substance and velvety texture. Prime favorites of the florists.
—Fluffy Ruffles. Mixture of bicolors; many not offered otherwise..... PET-3FR. 50¢
—Theodosia. Fringed rose, gold throat; very choice and popular..... PET-3T. 50¢
—Blend. Made up of the best colors and varieties..... 1/16 oz. \$4.50..... PET-3X. 50¢

PEPPERMINT STICK: A new medium sized Primula-type flowered Zinnia. Flower varieties spreading, others compact. Many plain-edged flowers of heavy substance and velvety texture. Prime favorites of florists.
—Burgundy. An All-American selection; pretty red with white throat..... PET-4B. 50¢
—Dazzler. New brilliant scarlet; compact..... PET-4D. 50¢
—Dwarf Elk's Pride. Deep velvety purple; compact..... PET-4E. 50¢
—Special Blend. Both light and dark shades in the best blend..... PET-4X. 50¢
1/16 oz. above, \$4.50

HYBRIDA: Strong growing and free flowering 20"-24" plants bearing medium sized plain edged single flowers; excellent for the garden.
—Flaming Velvet. A brilliant velvety scarlet and reselected strain..... PET-5FV. 25¢
—Howard's Star. Reddish purple with white star..... PET-5H. 25¢
—Radiance. Rich cerise rose, salmon undertone, yellow throat..... PET-5R. 25¢
—Rose King Improved. Rich rose with white throat excellent for boxes..... PET-5RK. 25¢
—Topaz Rose. Rose and gold color..... PET-5T. 25¢
—Violaacea. A deep violet..... PET-5V. 25¢
—White King. The best white variety..... PET-5W. 25¢
—Special Blend. The best..... 1/16 oz. \$1.00..... PET-5X. 25¢

HYBRIDA NANA COMPACTA: Dwarf compact free flowering 12"-16" plants bearing many medium sized plain edged single flowers; for beds and borders.
—Bright Eyes. A soft pink with a white throat; pretty..... PET-6BR. 25¢
—Eriodora. A brilliant variety; rose with white throat; showy..... PET-6E. 25¢
PETUNIAS Continued on Page 227.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

PINUS - PROBOSCIDEA - PROTEA

PETUNIAS Continued from Page 226.

| | |
|---|--------------|
| —FIRE CHIEF. The NEW GOLD MEDAL WINNER. Brilliant scarlet red | PET-6F. 35¢ |
| —Glow. Dazzling carmine-red color | PET-6GD. 25¢ |
| —Lavender Queen. Clear colors without markings | PET-6LQ. 25¢ |
| —Miniature Rose Gem. Pure rose in a small compact plant | PET-6RG. 25¢ |
| —Rose of Heaven. Brilliant rose, dwarf; extra select stock | PET-6H. 25¢ |
| —Rosy Morn. Rose, white throat; dwarf; extra select stock | PET-6M. 25¢ |
| —Snow Queen. The best white | PET-6W. 25¢ |
| —Topaz Queen. Glowing carmine rose overlaid with orange scarlet | PET-6TQ. 25¢ |
| —Twinkles. A bright rose with white star; showy | PET-6T. 25¢ |
| —Velvety Crimson. A rich color in crimson | PET-6VC. 25¢ |
| —Fancy Blotched and Striped | PET-6FB. 25¢ |
| —Blend. A choice blend of varieties | PET-6X. 25¢ |

BALCONY or PENDULA: Strong growing 18"-24" plants with spreading or trailing foliage bearing many single plain edged flowers larger than the ordinary bedding types. Garden and window boxes or pots.

| | |
|--|--------------|
| —Bergundy. Pretty purple-carmine with white throat | PET-7B. 25¢ |
| —Crimson | PET-7C. 25¢ |
| —Black Prince. A deep velvety red | PET-7BP. 25¢ |
| —Elk's Pride. The darkest velvety purple | PET-7E. 25¢ |
| —Rose | PET-7Z. 25¢ |
| —White. A pure clear white colored variety | PET-7W. 25¢ |
| —Special Blend. Best blend | PET-7X. 25¢ |

| | |
|---|--------------|
| —Giant Fimbriata Ruffled and Fringed. Fine for pot culture; huge | PET-9RF. 50¢ |
| —Ruffled Monsters. Single blotched and striped fls; huge; excellent | PET-8BX. 50¢ |
| —Mixed. Choice colors; excellent for pot culture | PET-8X. 50¢ |

PHLOX. (FLOX) Polemoniaceae.

Annuals and perennials, in many garden forms. They are easy to grow from seed. The common perennial Phlox does not come true from seed.

| | |
|---|----------------|
| —decussata: see P. paniculata. Perennial Phlox | |
| —Drummondii. Annual Phlox; 18"; many colors | PHLX-25X. 20¢ |
| —Cecily. Extra large flowered on dwarf compact plants | PHLX-25C. 20¢ |
| —Isabellina. Pretty yellow on dwarf compact plants | PHLX-25S. 20¢ |
| —Leopoldi. Large rose-pink | PHLX-25L. 20¢ |
| —stellata splendens. Star-like flowers | PHLX-25P. 20¢ |
| —Compact Strain Mixed. Extra good | PHLX-25CX. 20¢ |
| —Meteor. Salmon rose; dwarf compact plants | PHLX-25M. 20¢ |
| —Brilliant. Rose with dark eye; large flowers | PHLX-25B. 20¢ |
| —Cuspidata. Star Phlox. In mixed colors | PHLX-25CS. 20¢ |
| —Sutton's Beauty. An extra choice strain | PHLX-25SB. 25¢ |
| —Art Shades | PHLX-25AX. 20¢ |
| —paniculata. Varies in many colors, fls 1" ac; 4 ft; HP | PHLX-37. 20¢ |
| —paniculata. Giant flowered choice mixed | PHLX-37S. 20¢ |

PINUS (PYE-nus) PINE. Pinaceae.

| | | |
|---|-------------------------|---------------------|
| —australis. Long-leaf Pine. Va-Fla. | Oz. 40¢; lb. \$4.00 | PINU-5. 25¢ |
| —cembroides v. monophylla. Mexican Stone P. | Oz. 35¢; lb. \$3.00 | PINU-17M. 25¢ |
| —caribaea. Slash Pine | Oz. 75¢ | PINU-15. 25¢ |
| —monticola. Western White Pine. Hardy in N. | Oz. \$1.00; lb. \$7.50 | PINU-50. 75¢ |
| —montana mughus: see Mugo | | |
| —monophylla: see cembroides var. | | |
| —Mugo v. mughus. Dwarf prostrate shrub | Oz. 50¢; lb. \$5.00 | PINU-51M. 25¢ |
| —muricata. Bishop Pine. Calif. | Oz. 65¢; lb. \$6.00 | PINU-53. 25¢ |
| —palustris: see P. australis, the correct classification | | |
| —ponderosa. Western Yellow Pine; B. C.-Tex | Oz. 50¢; lb. \$5.00 | PINU-74. 25¢ |
| —resinosa. Red Pine (Lake States Seed) | Oz. \$2.00; lb. \$18.00 | PINU-79. 50¢ |
| —Torreyana. Torrey Pine; S. Calif. | Oz. 95¢; lb. \$9.00 | PINU-97 (4 sds) 25¢ |
| —Double Flowered Mixed. Large double flowers in best colors | | PET-9X. 50¢ |

PRIMULA. (PRIM-u-la) PRIMROSE. Primulaceae.

A very large genus, mostly low growing with flower parts always in 5s. They are varied as to types, uses and character. All require a rich deep moist soil, with coolness and some shade. Sow seeds either in late fall or early spring and early summer.

| | |
|--|-------------------|
| —Auricula. Many colors 1" ac; umbels; 8 in; HP | PRIM-10. 25¢ |
| —Bulleyana. Deep yellow fls 1" ac; whorls; 2½ ft; HP | PRIM-15. 35¢ |
| —burmanica. Reddish purple fls with orange eye, ½" ac; 2 ft; TP | PRIM-16. 25¢ |
| —candelabara Hybrids. Deep rich colors, purple, crimson to yellow; HP | PRIM-18. 35¢ |
| —cashmiriana: see denticulata | |
| —Cockburniana. Orange fls 1" ac; umbels; summer; 1½ ft; HP | PRIM-28. 35¢ |
| —denticulata. Dense heads of violet fls, early spring; 10"; HP | PRIM-40. 20¢ |
| —cashmiriana. More farinose, rich purple fls with yellow centers; HP | PRIM-40C. 35¢ |
| —Rubin. Deep ruby color | PRIM-40R. 25¢ |
| —elator v. aurantiaca. Orange-red fls; 8 in; HP | PRIM-45A(C). 30¢ |
| —Florindae. Sulphur-yellow fls, drooping, in terminal umbels; 4 ft; HP | PRIM-56. 35¢ |
| —glaucescens v. calycina. More robust, larger fls; rose to pur; 5"; HP | PRIM-63(C). 30¢ |
| —japonica Etal Hybrids. Choice selection of hybrids | PRIM-85E. 35¢ |
| —Postford White. By far the best white in the species | PRIM-85W. 35¢ |
| —Mixed. Many kinds of this pretty species | PRIM-85X. 25¢ |
| —kewensis. Bright yellow fragrant fls; umbels; grow under glass; TP | PRIM-89. 35¢ |
| —Kingii. ¾" scarlet fls; umbels; 8 inches; HP | PRIM-90. 35¢ |
| —pulverulenta. 1" fls, purple with orange-brown eye; umbels; 8 in; HP | PRIM-131. 40¢ |
| —rosea splendens. Red fls in loose heads; Himalayas; 8 in; HP | PRIM-134S(C). 30¢ |
| —secundiflora. Deep violet fls, one sided umbels; 8"; China; HP | PRIM-144. 40¢ |
| —vulgaris v. corrulea. (acaulis) Dark blue 1½ in. ac; 6 in; HP | PRIM-173C(C). 30¢ |
| —v. alba. White form; 6 inches; HP | PRIM-173A(C). 30¢ |
| —Hardy Primula Blend. All species hardy up to Michigan | PRIM-X. 30¢ |

PROBOSCIDEA. (pro-bo-SID-e-ah) UNICORN PLANT. Martyniaceae.

Annual and perennial plants with large, long stemmed leaves, large purple flowers and Okra-like fruits that can be used the same as Cucumbers. Sow seeds where plants are to grow but in the North start them indoors early.

| | |
|---|-------------|
| —Jussieu. Fls creamy white to violet, 3 ft across; TA | PROB-2. 15¢ |
|---|-------------|

The letters C and W stand for cool and warm, above or below about 60 degrees F; D and L stands for dark and light, to keep the seed pan in a light or dark place when while germinating.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

THE MAIL BOX



THE CORAL TREE

The Coral Tree you mention, I think is the Fireman's-Helmet, also Cry-baby tree of the South. The leaves grow quite large and the wind whistling through them sounds like the cry of a baby. They winter kill here in our section but come out from the roots.

I wish you would mark the seed packets with L or A, for lime or acid loving plants. It would keep people from losing heart, when they know what soil to plant in.

By Mrs. A. W. Griffen, Texas.

It takes a lot of paper and labor for all this information but we are adding information, each month, to many flowers. The larger the subscription list the more time and expense can be given to this sort of work.

Mrs. Griffen is looking for seed of the Brazilian Plume also the Gizzard Begonia.

WANTED

Dr. Virgil V. Phelps, Box 507, Wayne, Michigan wants the following, any reader knowing of a source should write him.

Constantine Apple, bulish white Silvery-leaf Poppy (Meconopsis violacea?), Calla oculata or Pride of Congo, Old Fashioned Roses: Albert Columbo, John Hopper. Jubilee, Louis van Houite Mons Louis Richard, Oscar Croiblet, Souv de Boustetten. Hybrid Teas: Mrs Croiblet, Souv. de Jean Soupert Victoria Harrington, Max Krause.

Costa Rica Caster Bean, Gratiola, Colunea gloriosa, Hedgee Hyslop, Aglaia odorata,.

BUT ONE COMPLAINT!

Mrs. R. A. Reynolds of Calall, Texas, writes that she "has one complaint to make. A lot of the tropical and sub-tropical items you list, you make statements that they can be grown outdoors only in California and Florida. We are able to grow such items here in South Texas, too".

We might add, too, that the interest in flower growing is just as great for we have a very large list of readers in Texas and there is not a day that some flower seed is not going to Texas. The trouble, though, is that we get so little reading matter on flower growing from Texas readers. Any way there is no intention on our part to neglect South Texas.

FRUITLESS MULBERRY TREE

It is with great pleasure, as always, that I went through your magazine. As answering the question of Mrs. Beatrice Hoff-acher of Michigan about the "Fruitless Mulberry Tree," it is nothing to worry about since the genus Morus is either dioecious or monocious. You might find trees with female or male flowers only or some (as most of them are) with both sexes on one specimen.

By S. L. Solymosy, Ga.

The subscription price is still \$2.00 for twelve issues. If you wish every issue it will be necessary to subscribe.

Light and Darkness in Seed Germination

Seed planting time is here and we want to remark on the subject of germinating seeds in the light or in darkness.

By darkness is meant out of the direct sunlight with the seeds usually covered or placed in a dark part of the room; by light, is meant that the seed should be exposed to the light but not necessarily to direct sunlight, at least for long periods.

The letters L and D indicate which and the letter F following indicates the temperature should be above 55 degrees F at night and the letter K means a night temperature of below 55 degrees; that is cool and warm germinating seeds. There are other requirements on some seeds such as bottom heat, etc., which will not be mentioned here. is some indication that they react to one or the other treatment:

Petunia, LK.
Phacelia, DK.
Mignonette, LK.
Ricinus or Caster Bean, DK.
Salpiglossus, LK.
Marigold, DK.
Verbena, LK.
Pansy, DK.
Viscaria, LK.
Cajophora lateritia, LK.
Cobaea scandens, DK.
Medeola asparagoides, DK.
Acanthus latifolius, DK.
Aconitum napellus, DF.
Aquilegia, LK.
Adonis vernalis, LK.
Bellis, LK.
Campanula pulilla, LF.
Campanula medium, LK.
Delpinium, DK.
Dianthus caryophyllus, LK.
Digitalis, LK.
Erinus alpinus, LK.
Eryngium alpinum, LF.
Gentiana acaulis, DF.
Geum atrosanguineum, LK.
Gypsophila repens, LK.
Gypsophylla paniculata, DK.
Helleborus, DK.
Heuchera, LK.
Incarvillea delavayi, LK.
Lunaria biennis, DK.
Lupinus perennialis, LF.
Papaver alpinum, LK.
Physalis franchetti, LF.
Primula, many species, LF.
Primula veris acaulis, LF.
Primula cashmireana, DK.
Primula denticulata, DK.
Primula Mioreana, DK.
Primula auricula, LF.
Salvia pratensis, LK.
Saxafraga decipens, LK.
Sedum spurum coccineum, LK.
Solidago LK.
Thalictrum diplerocarpum, LK.
Trollius europaeus, DF.
Verbascum, LK.
Viola cornuta, LK.
Asparagus plumosa, DK.
Begonia hybrids, LK.
Calceolaria, LK.
Ficus elastica, LK.
Impatiens, DK.
Primula chinensis, LK.
Primula obconica, LK.
Primula malacoides, LK.
Sparmannia africana, LK.

We would be pleased to hear from readers about their experience in this work.

QUAMOCLIT - RANUNCULUS

PROTEA. (PROH-tee-ah) Proteaceae.

Trees, shrubs and stemless perennials from S. Af. Those offered will stand several degrees of frost. They can be grown in pots where they make a grand showing.
—**Abyssinica**. From So. Rhodesia..... **PROT-1**. 10 seeds 50¢
—**angolensis**. From So. Rhodesia..... **PROT-2**. 10 seeds 50¢
—**cynaroides**. Very dark pink for wet soil and cool place..... **PROT-3**. 40¢
—**cynaroides**. Red and dark pink for cool and moist place..... **PROT-4**. 40¢
—**Mellefera**. Very delicate pink; 9 ft bush; cups 5" deep, 3" ac; HHP..... **PROT-7**. 35¢

PRUNUS (PROON-us) Rosaceae.

Includes the stone-fruits, Plums, Peaches, Cherry-laurels. Ornamental flowering kinds are especially listed here.
—**avium**. Sweet Cherry..... **PRUN-12**. 20¢
—**Lyoni**. Island Cherry. Ev. to 30 ft; fls white; Calif..... **PRUN-68** (J). 25¢
—**Sargentii**. Handsome, hardy tree; Japan..... **PRUN-108**. 25¢

PSIDIUM. (SID-ee-um) GUAVA. Myrtaceae.

Tropical trees and shrubs grown in the far South for ornament and their edible fruits, much used in jellies and conserves. Easily grown any where oranges are.
PSIDIUM Guajava. Common Guava. Grown in Florida..... **PSID-4**. 25¢

PTEROCEPHALUS. (tehr-oh-SEFF-al-us) Dipsacae.

Draba-like perennials, grown in the rockery. They are native of the Pyrenees; 2-3" high; mat-like growth.
—**pyrenarica**. Lvs in rosettes; fls lilac; 2-3"; HP..... **PTOC-1**(C). 30¢

PURSHIA. (PURSH-e-ah) (Kunzia) ANTELOPE-BUSH. Rosaceae.

Western native bushes with small yellowish flowers, probably best for its clustered leaves. It grows in arid lands from Ore. to Calif.
—**tridentata**. Deciduous, to 6 ft; silvery leaves; hardy to Mich..... **PURS-1**. 25¢

QUAMOCLIT. (KWAM-oh-kliit) STAR GLORY. Convolvulaceae.

Annual and perennial twining vines, treated as tender annuals in the North. They are used mainly for rapid growing climbers, thriving in a good light soil and in full sun.
—**hederifolia**. Star Ipomoea; 10 ft; scarlet, yellow th; lvs; HHA..... **QUAM-1H**. 20¢
—**lobata**. Crimson fls fading to pale yellow; grows to 20 ft; TP..... **QUAM-2**. 20¢
—**pennata**. Cypress Vine. Showy scarlet fls; to 20 ft; TA..... **QUAM-4**. 20¢
—**White**. A pretty white flowered form..... **QUAM-4W**. 20¢
—**Pink**. A pink colored variety..... **QUAM-4P**. 20¢
—**Mixed**. Mixed varieties of Q. pennata..... **QUAM-4X**. 15¢
—**Sloieri**. Cardinal Climber. Red fls, white throat, 2" long to 20 ft; TA..... **QUAM-6**. 20¢
—**Quamoclit Mixture**. All species mixed..... **QUAM-X**. 15¢

ORDERS FOR SEED MAY BE AS LOW AS ONE PACKET; ORDER AS NEEDED.

RAMONDA. (ray-MOND-ah) Gesneriaceae.

Small plants making flat rosettes of hairy basal leaves, stems 3-4 inches long bearing several 4-5 pointed flat flowers, resembling Saintpaulia, to which family it belongs. Fully hardy with protection; seedlings develop slowly.
—**Nathaliae**. Lavender-blue with golden center; Serbia; HHP..... **RAMO-5**(C). 50¢
—**Myconii**. Purple fls; 1 in. ac; 3 in; Pyrenees; HHP..... **RAMO-7**(C). 50¢
—**pyrenaica**. Reclassified as **R. Mmconii**, which see.

RANUNCULUS. (rah-NUN-keu-lus) BUTTERCUP, CROWFOOT. Ranunculaceae.

A very large genus and popular in flower gardens; those grown mainly as greenhouse plants belong to *R. asiaticus*. They are generally perennial and easily grown from seed, in well drained soil and sunny positions. Some of the low growing species are ideal rockery plants.

—**californicus**. 2 ft; HP; yellow fls; Ore..... **RAN-13**. 25¢
—**aconitifolius**. White fls 1 in. ac; 3 ft; HP..... **RAN-2**(C). 30¢
—**hirtellus**. Variable species, fls 2" yellow, white or pale rose; HP..... **RAN-30**. 25¢
—**Camellia-flowered**. **RAN-31C**. 20¢
—**Hybrid, French Giants**. **RAN-31F**. 20¢
—**Mixed Hybrids**. **RAN-31X**. 20¢
—**lindleyi**. **RAN-34**. 20¢
—**Lappaceus**. **RAN-33**. 30¢
—**Lyallii**. Showy; 2 ft; white; N. Zealand; TP..... **RAN-35**. 30¢
—**superbus**. Shades pink, white, red, yellow, rose; 35 d.to germ; HP..... **RAN-67**. 20¢
—**Ranunculus Mixture**. All mixed..... **RAN-X**. 20¢

RAPHIOLEPSIS. (raf-ee-OL-ep-iss) Rosaceae.

Evergreen shrubs grown in Southern States. They have shining leathery leaves; white or pink flowers in racemes or panicles followed by purple fruits.
—**umbellata v. ovata**. Yeddo-Hawthorne; to 12 ft; Japan..... **RAPH-6V** (J). 35¢

RHEUM. (REE-um) RHUBARB. Polygonaceae.

Perennials with stout basal leaves and with the flowers in clusters or racemes at top of long stems. There are many species of which the common Rhubarb is one. Used mainly for bold effect in the border.

—**acuminatum**. Stems and fls dark purple; 2-3 ft; HP; Himalayas..... **RHEM-1**. 25¢
—**nobile**. Densely covered with yellowish bracts; striking; 4 ft; HHP..... **RHEM-8**. 25¢
—**Rhaponticum**. Pie Plant. Listed in with the herbs.
—**Rheum Blend**. All kinds mixed..... **RHEM-X**. 20¢

RHODANTHES: see *Helipterum Manglesii*.

RHODODENDRON (roh-doh-DEN-dron) Rose-bay, Azalea. Ericaceae.

—**Ghent Hybrids**. A high quality hybrid strain..... 1/16 Oz. \$1.50..... **AZAL-1**. 50¢
—**Kaempferi**. (Home grown seed (Rhododendron obtusum Kaempferi)..... **RHOD-250K**. 50¢
—**Schlippenbachii**. Pink spotted brown; 3" ac; frag; Korea; 15 ft..... **RHOD-228**. 50¢
—**obtusum Arnoldianum**. Hyb. amoenum and Kaempferi; rose, red; 3' **RHOD-250A**. 50¢

We intend the classifications to be correct, even to the capitalization of the species names and will appreciate any corrections. Index will appear in a near future issue. Bb means bulb; Tr, tree; Sh, shrub; T, frost tender; W white; lvs, leaves Cl, climber.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

ROSE - RUDBECKIA - SALVIA

RHODOHYPOXIS. (ray-doh-hy-POX-is) Amaryllidaceae.

Pretty little bulbous plants from S. Africa and very rare in cultivation. They make a dense turf of short grassy leaves, with flat 6-pointed stars, $\frac{3}{4}$ inch across. Like moist but well drained sandy soil, half shade and stand down to 20 degrees F. Winter bulbs over in a cool cellar; they should not be allowed to dry out.

—*baurii*. Brilliant rose or white fls; good pot plant. RHOX-1. 60¢

RICINUS. (RIS-in-us) CASTER BEAN. Euphorbiaceae.

(G 15 days)

Single species, variable and distributed over the tropical regions. In gardens they are planted for their foliage effect. They grow as high as 20 feet and give a sub-tropical effect in the border or in center of beds. Start seed indoors early or they can be planted where plants are to grow; treat them as tender annuals.

R. communis:

- borboniensis arboreus*. Red stems, glaucous foliage; 10 ft. RIC-1B. 20¢
- camboensis*. Dark foliage and blackish purple stems; 10 ft. RIC-1C. 20¢
- Gibsonii*. Dark foliage with metallic luster; dwarf form; 8 ft. RIC-1G. 20¢
- Red Spire*. Showy red stemmed variety; 10-15 ft. RIC-1R. 20¢
- sanguineus*. Red leaves; 10 ft. RIC-1S. 20¢
- zanzibarensis*. Bright green leaves with white veins; 15 ft. RIC-1Z. 20¢
- viridis*. More dwarf; green foliage; 10 ft. RIC-2V. 20¢
- Ricinus Mixture*. All varieties mixed. $\frac{1}{4}$ lb. 60¢; Oz. 25¢ RIC-X. 20¢

ROMULEA. (ro-mu-LE-ah) Iridaceae.

Crocus-like bulbs in purple, lilac and yellow and closely related to the Crocus, but not real hardy; they are not common in the U. S.

- bulbicodium*. Pale lilac, yellow centers, tinted golden brown. ROMU-1. 25¢
- Hartungii*. From S. Africa. ROMU-2. 25¢

ROSE. Genus Rosa. Rosaceae.

The seed of species of Roses should be planted in the fall so that they can lay over winter, in the soil when they usually germinate all right the next spring. The seed bed should be so arranged that it can remain the second spring, for it is not unusual for some seed to even germinate the second spring.

- highdownensis*. Crimson fls; bright fruits; a hybrid; HP. ROSE-68. 25¢
- multiflora*. White fragrant fls; semi-climber; 8 ft; HP; China. ROSE-106. 25¢
- pendulina*. Rose fls; incorymb; 3 ft; HP; Europe. ROSE-118. 25¢
- pimpinellifolia* (spinossissima). Scotch R. White pk or yel; HP. ROSE-141 (C). 40¢
- setigera*. Prairie R. Cl. to 15 ft; Pale rose fls; HP. ROSE-134. 25¢
- cericea*. Himalayan rose. ROSE-34. 25¢
- rutkana*. 5 ft; rose color; to Alaska. ROSE-112. 25¢
- intensa*. 6 ft; pink and white; Europe. ROSE-150. 25¢
- aliaica*. White fls; Minn. ROSE-141A. 25¢
- Rose Mixture*. All species. ROSE-X. 25¢

RUDBECKIA. (rud-BEK-e-ah) CONEFLOWER Compositae.

Conical shaped disks of daisy-like flowers. They thrive in any ordinary soil, either in sun or partial shade. Seed can be planted early indoors or later outside. They are especially nice for cut flowers or massing in the border.

- amplexicaulis*. Yellow petals, brownish disk; 2 ft; HA. RUD-1. 15¢
- bicolor*. Golden Sunset. Double golden fls; HA. RUD-2G. 15¢
- hirta*. Black Eyed Susan. Bien, but often annual; 3 ft; rays golden yellow, disks purple. RUD-6. 15¢
- ple-brown*. 3" across; Bue-frost; comes in many varieties. RUD-6A. 15¢
- Autumn Tint*. Golden yellow petals, dark disks; 2 ft; HA. RUD-6H. 20¢
- Herbward*. Mostly red shades; New Swiss novelty. RUD-6K. 15¢
- Star of Kewdon*. Golden yellow rays, dark brown disks; $2\frac{1}{2}$ ft. RUD-6M. 15¢
- My Joy*. Pure golden yellow, black disk; very good German var. RUD-6Y. 15¢
- New Hybrids*. Many new forms. RUD-6X. 15¢
- Mixed Hirta R.* Above mixed. RUD-6Y. 20¢
- Large flowered*, golden yellow. RUD-6Y. 20¢
- Speciosa*. Pinkish rays, large dark cone; petals hang downward giving it an attractive effect; 2 ft; HP. RUD-17N. 20¢
- purpurea*: see *Echinacea purpurea*.
- Starlight*. Semi-double; good range with many bicolors. RUD-17S. 15¢
- Rudbeckia Mixture*. All kinds mixed. RUD-X. 15¢

SABAL. (Inodes) Palmetto. Palmaceae.

The Palmetto Palms, found in Fla. and as far North as N. C. They are easily grown and fresh seed is available in late Fall, germinates readily and grows quickly.

- minor*. (Adamsonii) Dwarf Palmetto; stemless \$5.00 per 1,000 Seeds. SABA-10. 50¢

SAINTPAULIA. (saynt-PAU-le-ah) AFRICAN VIOLETS. Gesneriaceae.

African Violets can be easily grown from seeds and these produce excellent flowers. The seed being small sow on the surface of mixture of peat, leaf mold and silver sand, equal parts; press seeds into soil, cover with glass; water from below; keep in warm place when they germinate in 2 weeks, when glass should be removed to avoid damping off.

- diplotricha*. (ionantha) Best species for pot plants. SAPU-1. 50¢

AFRICAN VIOLETS (by Carolyn K. Rector) 94 pgs; Complete cultural directions. \$1.35

SALPIGLOSSUS. (sal-pi-GLOS-is) Solanaceae.

Half hardy annuals from Chile, the Paisly Flower, suggests well the exotic beauty of its coloring, rich velvety tones of purple, blues, yellows, reds and white veined with gold. Flowers funnel-shaped, $2\frac{1}{2}$ " across; blooming from July till frost. Start seed early indoors being careful not to allow seedlings to become stunted; best in sandy soils and partial shade. Germinate in full light and a warm place. For winter flowers in the greenhouse start in late summer

- S. *sinuata*:
 - Dwarf Giant Flowered*. Bushy; large fls; many colors; $1\frac{1}{2}$ ft; HHA. SALP-1D. 20¢
 - Emperor*. Upright growth; heavy gold veining; extra; 3 ft; HHA. SALP-1E. 25¢
 - Gloxiniaeflora*. Gloxinia-flowered, beautifully marked. SALP-1G. 20¢
- Salpiglossus Blend*. Above blended together. SALP-X. 20¢

SALVIA. (SAL-v-ah) SAGE. Labiateae.

There are many species, some of which are very showy in the flower border. S. splendens, Scarlet Sage, is the best known, being grown for its red flowers. They all are easily grown from seed and require no special care.

SALVIA Continued on Page 230.

IRIS

By Walter Welch, Indiana

POLLEN MAGIC

A very competent Iris hybridizer once stated in my presence that most of the fine qualities of our plants were not natural characteristics but were man made qualities. I had never realized this so fully until he had brought it to my attention.

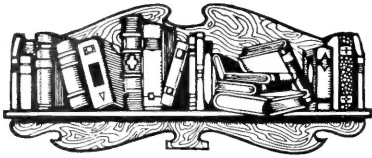
It is quite natural to consider that all of the fine improvements that we see in modern day varieties are merely characteristics that are natural segregates of inherent factors and that ordinary practices will bring them out of their latent condition. This is true of some of the recessive patterns and colors but there are many interesting refinements that are purely artificial and created by man through experimentation and environmental influences. These take on the aspects of evolutionary progress.

To anyone who has studied closely the bearded Iris species from which our modern Iris originated, it is difficult to visualize any relationship between them. When you observe the narrow, flimsy, tucked under falls, the drab muddy colors with reticulations and blotches, weak curving stems, top branching, poor substance and a multitude of other things that are now considered disqualifying faults, and then compare them with the fine ruffling, wide horizontal and flaring falls, domed and closed standards, clean smooth self color, an absence of half markings, substance like leather, non-fading color, fine candelabra branching, all of the refinements that make up our modern varieties, you realize that man actually does create beauty to fit his own needs.

We often wonder where the limits to this evolution or creation exist or whether there are limitations. As my experience grows I am more inclined to think in terms of unlimited possibilities. A lady once asked me if it would be possible to grow a black beard upon a pure white Iris. I confidently told the lady that it was possible and since then I have almost accomplished this feat in my garden. I have seen ruffling in a flower carried so far that it developed into a series of horns around the edges of the petals. Most of you can recall instances of things that were declared impossible, now common in our gardens.

Often some new expression results from strange combinations of factors that are foreign to either source of the factors: For example white is naturally a recessive character, and there is no record of a dominant white factor in either the tall bearded Iris or in the dwarf bearded Iris. Yet as Mr. Sturtevant has recently stated, our modern dominant whites in the tall bearded Iris resulted from crosses with the dwarfs.

Another such case is colors and characters that show up in the progenies of (Tall bearded x I. pumila), which are inherent in neither parent. Apparently it is the joint action of two distinct and different factors which resulted in a new expression. The new green color is one of these expressions that is found only in these hybrids. That also is artificial and not a natural inherent factor in the composition of either parent.



RECOMMENDED GARDEN BOOKS

PLANTS OF HAWAII NATIONAL PARK

By Otto Degener, Naturalist of Hawaii.

A book of human interest emphasizing the culture of the ancient Hawaiians. As many of the plants growing in Hawaii grow likewise in other islands of the Pacific and as many of the ancient Hawaiian customs are like the customs of present inhabitants of other Pacific Islands, this book is actually illustrative of plants and customs of the South Seas. 333 pgs., profusely illustrated with 101 full-page plates and 39 figs; paper cover. \$2.50

NATURALIST'S SOUTH PACIFIC EXPEDITION

By Otto Degener.

A narrative based on the writer's stay of eight months in the Fiji Islands as a member of the Annr Archbold "Cheng Ho" Expedition, illustrated with photographs. \$5.00

VIOLETS for GARDEN and MARKET

79 pp., 13 pp. plates (5 in color) 8vo, cloth. (1950) New, in dust wrapper.

A delightful little book covering the culture of Violets. Mrs. Zambra writes as an expert as she and her husband have grown Violets commercially for many years. The last chapter is of interest to those looking for old fashioned recipes. She tells how to make Violet syrup, honey of Violets, conserve of Violets and many other recipes.

ROSES IN COLOR and CULTIVATION.

T. C. Mansfield. 261 pp. of text, 80 color plates. 37 figures. Cr. 8vo, cloth, (1947) London, New, in dust wrappers. \$5.00

This book lists most of the roses now in cultivation (to 1947). Many are pictured in color. There are cultural notes, and long lists and descriptions of the varieties.

CACTUS GROWING FOR BEGINNERS.

V. Higgins and H. T. Marrable. 84 pp. 12 pp. plates., 12mo, boards. London (1947) New. \$1.00

Clear concise directions for raising cactus indoors in pots for beginners.

THE GARDEN of PLEASANT FLOWERS.

E. G. Wheelwright. 190 pp., 7 pp. plates. 12mo, cloth. London (1948). \$1.75

Mrs. Wheelwright takes us through the English garden at it's best. A charmingly written book, with intimate accounts of the plants in the garden. Very good garden advice, especially on unusual plants.

AZALEAS and CAMELLIAS

H. H. Hume. 86 pp. of text, colored frontis, 6 pp. plates. 12 mo. cloth. New York, 1946. \$1.75

This is an older book by Mr. Hume, who has now written separate books on Azaleas and Camellias. However, for those who do not wish to specialize, but who are looking for general cultural information, this little volume can be of great value.

CORSAGE CRAFT.

G. Reusch and M. Noble. 148 pp. profusely illus. 8vo, cloth. New York, 1951. \$3.50

For those who wish to learn the fundamentals of corsage making, this book is ideal. Complete pictured instructions are given, plus many pictures of completed corsages to give one inspiration in designing corsages of one's own.

ROYAL HORTICULTURAL SOCIETY'S YEAR BOOKS.

We can supply copies of the RHODODENDRON YEAR-BOOK, the DAFFODIL and TULIP YEAR-BOOK and the LILY YEAR-BOOK. (1951-52) Each \$2.40

It will take about six weeks for delivery.

HORTICULTURAL COLOR CHART.

\$10.00 This is the Horticultural Color Chart

SANVITALIA - SAXIFRAGA

SALVIA Continued from Page 229

- argentea. Silver S. Lvs 8', white woolly; fls rose-white; pan; HB..... SALV-4. 20¢
- azurea. Blue or white fls, ½" long, racemes; 3 ft; TP..... SALV-7. 20¢
- coccinea. Scarlet fls 1" long, racemes; Tex; 2 ft; TA or TP..... SALV-20. 20¢
- farinacea. Violet-blue fls, ½" long, racemes; Tex; 3 ft; TP..... SALV-24. 20¢
- Blue Bedder. Improved form in blue fls; longer spike; "hardy"..... SALV-24B. 20¢
- interrupta. Bluish white fls, racemes; 2 ft long; N, AF; 4 ft; TSh..... SALV-40. 30¢
- Jurisicif. Small purple fls branched racemes; 18"; Serbia; HP..... SALV-44. 30¢
- officinalis. Garden Sage. Sow late fall or early spring (see Herb List)..... SALV-60. 15¢
- grandiflora. A large flowered ornamental hardy Sage..... SALV-60G. 50¢
- grandiflora. A blue flowered strain from Switzerland..... SALV-60G(C). 30¢
- paucis. Gentian S. Large fls, 2" long; Mex; 2½ ft; *HHF..... SALV-61C. 20¢
- Cambridge Blue. Pretty blue variety..... SALV-61C. 20¢
- Mauve Queen. Lovely mauve variety..... SALV-61M. 20¢
- pratensis. Bright blue fls, 1" long; racemes; 3 ft; HP..... SALV-64. 20¢
- Sclarea. Clary S. Rose and white fls 1" long, panicled rac; 3 ft; HB..... SALV-77. 20¢
- turkestanica. White fls tinged pink..... SALV-77T. 25¢
- Salvia Blend. All species except S. splendens..... SALV-X. 20¢

S. SPLENDENS: Well known Scarlet Sage, plants of which are easily grown from early started seeds sown in Feb. or March. They are perennials but tender and thus grown as a tender annual in the North; blooms from July till frost. Seed germinate in about 15 days and should be kept in a warm place and in light; cover seed pan with glass. The varieties vary in time of flowering, height, type of growth and flower color.

- America. Earliest, uniform plants, 20" tall; brilliant scarlet; Oz. \$1.25 SALV-85A. 20¢
- Bonfire. Brilliant scarlet, erect stiff growth; 2½ ft; Oz. \$1.35..... SALV-85B. 20¢
- Fireball. Scarlet, very early; dwarf, heavy spikes..... Oz. \$1.25..... SALV-85C. 20¢
- Rocket. Very early dwarf, 1½ ft;..... Oz. \$2.50..... SALV-85D. 30¢
- St. John's Fire. Early dwarf, scarlet; upright 10" plants..... Oz. \$4.00 SALV-85S. 30¢
- Zurich. Earliest and very dwarf; compact; scarlet; 18"..... Oz. \$1.50..... SALV-85Z. 20¢

SANDERSONIA aurantiaca. For the GH; 2 ft; bright yellow..... SAND-1. 50¢

SANTOLINA. (san-toh-LY-nah) Compositae.

Low border or edging plants, many of which are propagated by cuttings. Grayish low evergreen shrubs with many flowered heads of yellow or white disk flowers.

- rosmarinifolia. Solitary heads; 2 ft; Med. Regions; HHS..... SANO-6. 25¢

SANVITALIA (san-vi-TAY-le-ah) Compositae.

Small American annuals with small solitary heads and white or yellow rays, brown or purple disks. Light soil and full sun.

- procumbens, Double. Creeping Zinnia. Low border pl; hot dry places; orange-yellow Zinnia-like flowers; excellent for the rockery..... SANT-1. 15¢

SATUREJA Brauneana. SATV-5. 25¢

SAPONARIA. (sap-oh-NAY-re-ah) SOAPWORT. Caryophyllaceae.

Easily grown hardy annuals and perennials some of which are excellent for the rockery. Flowers are red, pink or white, in cymes or panicles, native of Europe.

- calabrica, Mixed. Small deep rose, white, blood-red fls; 9"; HA..... SAPO-3X. 15¢
- Red..... SAPO-3R. 15¢
- White..... SAPO-3W. 15¢
- ocymoides. Bright pink fls, flat top clusters; RG and walls; tr; 9"; HP..... SAPO-8. 15¢
- splendens. Fls larger and deeper rose..... SAPO-8S(C). 30¢
- Vaccaria rosea. Pale pink fls, ½" ac; in loose cymes; 3 ft; HA..... SAPO-13R. 15¢
- White. White flowered form..... SAPO-13W. 15¢

SAUSSUREA. (soass-YEW-ree-ah) Compositae.

Temperate zone plants with heads of blue or purple disk flowers, easily grown from seed. Ornamental in the border.

- gossypiphora. Dwarf, 6-12", fls in large umbels, silvery gray; HP..... SAUS-4. 25¢

SAXIFRAGA. (sak-SIF-rah-gah) SAXIFRAGE, ROCKFOIL. Saxifragaceae.

A very large genus much prized as flowers in the rockery and border. They are not hard to grow from seed and require the usual attention of all perennials. Sow seed either late in the fall or early in the spring for best results, altho they can be planted at other times of the year.

- aizoon, Mixed. Dense basal rosettes; fls ½" ac; 18 in. tall; HP..... SAX-4X. 25¢
- dense. Rosettes very small and silvery; fls creamy; HP..... SAX-4D. 25¢
- minor. Small silvered rosettes and short spikes; white fls; HP..... SAX-4M. 25¢
- rosea. Bright pink fls; HP..... SAX-4R. 25¢
- arguta. White fls with yellow spots; very small, panicles; 8"; HP..... SAX-22. 25¢
- carillaginea. White, rose or purple fls; lvs in rosettes; 9"; HP..... SAX-54. 25¢
- cochlearis major. Tight pads silver rosettes; white fls on 6 inch stems; sun; gritty soils with lime; a fine rockery plant..... SAX-60M(W). 40¢
- Cotyledon. White, veined pink, fragrant; ¾" ac; 2 ft; HP..... SAX-65(C). 30¢
- crustata. Dense tufts; white fls, ½" ac; 1 ft; HP..... SAX-68. 25¢
- cuneata. White fls in loose panicles; 6 in. tall; HP..... SAX-69(C). 30¢
- infundibuliformis. Spoon shaped lvs; HP..... SAX-70F. 25¢
- cuneifolia. Lvs rosettes; white fls, yellowish at base; 1 ft; HP..... SAX-70. 25¢
- decipiens: see S. rosea for correct listing.
- Geum. White fls ¼ in. ac; 1 ft; HP..... SAX-96(C). 30¢
- Godseffiana. Deep yellow hybrid; 4"; HP..... SAX-100. 25¢
- lingulata v. Freshways. An English variety of value; 1 ft; HP..... SAX-130F. 30¢
- oppositifolia. Red fls ½ in. ac; densely matted; to 2 inches; HP..... SAX-157(C). 30¢
- rotundifolia. White fls to ¾ in. ac; 2 ft; HP..... SAX-176(C). 30¢
- sarmientosa. Strawberry Geranium; white; 2 ft; baskets; HP..... SAX-180(C). 30¢
- trifurcata. (decipiens) Milk white fls; lvs kidney-shape; 8"; HP..... SAX-194. 25¢
- Mossy White. An English white variety..... SAX-194M. 25¢
- H. S. Stokes. Brilliant red, not entirely true from seed; HP..... SAX-194S. 25¢
- umbrosa. White or pink fls; 1 ft; HP..... SAX-195. 25¢
- virginianensis. Lvs in rosettes; fls white, ½" ac; 1 ft; HP..... SAX-200. 25¢
- Saxifraga Blend. All kinds mixed..... SAX-X. 25¢

SCABIOSA. (skay-bee-OH-suh) MOURNING BRIDE, PINCUSHION FL. Dipsacaceae.

A very popular garden flower for sunny positions. Sow seeds early indoors or later in the open ground. In the South plant the annuals late in the fall. Pinch back annuals for bushy plants and by keeping flowers cut they will bloom all summer.

- atropurpurea. Sweet Scabious. Erect HA in many forms; 3 ft..... SCAB-3X. 15¢

SCABIOSA Continued on Page 231

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

SCHIZANTHUS - SEDUM

SCABIOSA Continued from Page 231.

- BlueCockade. Tall, azure-blue..... SCAB-3B. 15¢
- Fire King. Tall fiery scarlet..... SCAB-3F. 15¢
- Imperial Giants. Very large double fls; frilled; 3-4 ft; HA..... SCAB-3G. 15¢
- Blue Moon. Large dark lavender-blue without raised center..... SCAB-3M. 15¢
- Giant Hybrids. Large fls; compact plants; excellent cutfls..... SCAB-3H. 15¢
- Orchd Shades. Special strain of delicate colors..... SCAB-3K. 15¢
- Rosette. Special strain in mixed colors..... SCAB-3R. 15¢
- Shasta. Tall, pure white..... SCAB-3S. 15¢
- Tall Large Flowered. Mixed. Excellent garden strain and cut..... SCAB-3X. 15¢

EIGHT SPECIAL COLORS:

- Definitely a much better strain for cutting. Size of bloom, length of strong wiry stems and purity, are especially noticeable; recommended to market. growers.
- Ageratum Blue. Pretty light blue..... SCAB-3WA. 20¢
 - Azure Fairy. Fine color, azure-blue..... SCAB-3WF. 20¢
 - Loveliness. Pretty salmon-rose shades..... SCAB-3WL. 20¢
 - Orchid Shades. Soft rose-lavender blends..... SCAB-3WR. 20¢
 - Peach Blossom. Peach blossom pink..... SCAB-3WP. 20¢
 - Perfecta. Large flowered blue variety; HP..... SCAB-6P. 15¢
 - Above Blended. Hand made blend of varieties in right proportions..... SCAB-3WX. 15¢
- Bulk Prices: Any of above, Oz. 75¢; ¼ lb. \$2.00; Lb. \$7.00.

- caucasia, House Hybrids. One of the loveliest perennials; shades blue SCAB-6H. 20¢
- Columbaria. Mixed. Delicate lavender and pink fls; 18"; HP..... SCAB-7X. 20¢
- Lavender. Same in delicate lavender..... SCAB-7L. 20¢
- Pink. Same in delicate pink..... SCAB-7P. 20¢
- graminifolia. Pale blue fls in flat heads, 1½' ac; 1 ft; HP..... SCAB-18. 30¢
- ukranica..... SCAB-18. 30¢
- Perennial Scabiosa Mixed. All the perennial species..... SCAB-PX. 20¢

SCAEVOLA frutescens v. serica. Hawaiian Jade. Tree or Naupak. Fls. and fr. white, not edible; will grow near beach in sand also elsewhere; 3 ft sh; HHSH SCAE-3. 35¢

SCHINUS. (SKY-nus) Anacardiaceae.

- Ornamental trees with small flowers in racemes or panicles, followed by fruits. Not hardy in the North; planted as lawn specimens in South; can be grown in greenhouse.
- Molle. Cal. Pepper T, Peruvian Mastis T. Ev to 20 ft; yellowish fls; T tr SCHN-6. 25¢
 - terebinthifolius. Brazilian Pepper T; Xmas Berry T; to 20 ft; red fr. SCHN-8. 25¢
 - Schinus Mixed. Both kinds..... SCHN-X. 25¢

SCHIZANTHUS. (sky-ZAN-thus) BUTTERFLY FLOWER. Solanaceae. G 2-4 wks.

Beautifully marked and unusually formed flowers in chamois, rose, lavender and purple shades with fern-like foliage. Excellent for pot culture the year round or in partly shaded beds outdoors, doing best in a cool climate. Pinch tops to induce bushy growth; for winter flowers, start in Sept. for blooms in Feb. to May. For summer flowers sow seeds indoors in March. Set out in late May. Schizanthus makes up nicely in corsages and last well. They are annuals or biennials; 18 inches tall.

- Hybrids: Listed here are all the popular varieties usually from hybridization..... SCHZ-1C. 20¢
- Dr. Badger's Hybrids. Brilliant range, no whites; golden blotch; 1 ft..... SCHZ-1E. 20¢
- Chislehurst Hybrids. Beautiful strain in violet and purple shades..... SCHZ-1Z. 15¢
- Hurst's Monarch. Compact English strain; fine color range..... SCHZ-1H. 20¢
- wisetonensis. Hybrid in all shades and upper lip suffused yellow..... SCHZ-1W. 20¢
- Butterfly Mixture. Brilliant range; all kinds; 1 ft..... SCHZ-X. 15¢

SCHIZOSTYLUS. (scky-ZOSS-til-iss) CRIMSON FLAG, KAFIR-LILY Iridaceae.

- A greenhouse flower in the North for cutflowers. Flowers in spathes, red.
- coccinea. Deep crimson; 2" ac; lvs grass-like; 2 ft; TP..... SCHI-1. 25¢

SCIADOPITYS. (sy-ad-DOP-itiss) UMBRELLA PINE. Taxodiaceae.

- Japanese evergreen tree, slow growing and ornamental.
- verticillata. Hardy up to Michigan; lvs small and scale-like..... SCIA-1. 35¢

SCILLA. (SIL-ah) SQUILL. Liliaceae.

Attractive and popular bulbous plants with narrow basal leaves and sprays of starry flowers in blue, white or pink. Ideal for rockery, woodland or border; they also can be grown in pots. They are hardy in the North; the bulbs are delivered in fall.

- peruviana. Purple to reddish or white; 1 ft; HP..... SCIL-13. 25¢
- pratensis. Very small blue fls in racemes; 18 in; HBb..... SCIL-14(C). 30¢
- bifolia. Dwarf deep blue, blooming in Feb..... BULBS: 10-55¢; 100-\$3.00
- hispanica: Spanish Bluebell; (Scampanulata); all mixed..... BULBS: 10-50¢; 100-\$4.00
- alba maxima. Wood Hyacinth. Naturalizing; shade; white..... BULBS: 10-60¢; 100-\$5.00
- Arnold Prince. Deep rose; long trusses..... BULBS: 10-60¢; 100-\$5.00
- Blue Queen. Early pale blue; pretty..... BULBS: 10-60¢; 100-\$4.75
- Excelsior. Strong grower; bright blue large spikes..... BULBS: 10-60¢; 100-\$5.00
- nonscripta. (nutans) English Bluebell; in racemes; 1 ft; HBb..... SCIL-12(C). 30¢
- Peach Blossom. Pretty pink variety..... BULBS: 10-60¢; 100-\$5.00
- White Triumphator. Pretty strong growing white..... BULBS: 10-60¢; 100-\$6.00
- siberica. Deep blue; ½' ac; nodding racemes..... BULBS: 10-60¢; 100-\$4.50; 1000-\$25
- Spring Beauty. Large pure white..... BULBS: 10-70¢; 100-\$5.50
- Scilla Blend. Mixture of all varieties in stock..... SCIL-X. 20¢

- SCHIEVERECKIA podonica. 4 inch HP; white cushion; RG..... SCHV-1. 50¢
- Seaforthia: see Archontophoenix.

SCROPHULARIA. (skrof-yew-LAY-re-ah) FIGWORT. Scrophulariaceae.

- Perennial plants rarely planted in the border or for medicinal purposes; hardy.
- chrysanthea. Greenish yellow fls; 2 ft; HB or HP; Caucasus..... SCRO-3. 25¢

SECURIDACA. (see-q-RID-ah-see) RHODESIAN VIOLET TREE. Popygalaceae.

- Rhodesian Violet Tree. Suitable for the South only.
- longipendunculata. Very beautiful T; small pea-like purple-pink fls; frag. SECUR-1. 30¢

SEDUM. (SEED-um) STONE CROP. LIVE-FOREVER. Crassulaceae.

Succulent or fleshy, erect or prostrate plants, mostly hardy, easily grown and popular for the rockery, walls and such places. No rock garden is complete without Sedums; they are very appealing to children. Sow seeds any time and treat like any perennial. Some are grown indoors. They thrive in sunny positions, light soils and dry places.

SEDUM Continued on Page 232.

BOOKS CONTINUED

published jointly by the Royal Horticultural Council. The individual charts in two cloth cases. (2 vols.)

A B. C. of the GREENHOUSE \$1.50
Shewell-Cooper, 320 pp., 4 col. plates
9 gravure plates, 27 line illus. 12mo, cloth.
London, 1949.

A.B.C. of ROCK GARDEN and POOL \$1.50
Shewell-Cooper, 204 pp. illus. London
1949. Quite comprehensive for its size, this book lists many plants usable for rock gardens and for pools. Gives cultural hints and tells you how to construct rock gardens and pools.

PROPAGATION of HARDY TREES and SHRUBS. \$1.75
G. M. Taylor. 107 pp. 8 pp plates, Oxford, 1947.

A book designed to meet the needs of the amateur. Tells how to make cuttings, layers, grafting, etc. What shrubs and trees can be propagated from seed and how best to treat the seed in order to obtain the best results

THE GARDEN FRAME. \$1.50
184 pp. 8 pp plates, 38 figs in text, London (1947).

How to start plants in the frame, wintering over, and all those problems connected with protecting plants and getting them started while the weather is still chilly.

POPULAR ORCHID GROWING. \$1.75

This is of special interest to the amateur Orchid grower and covers the growing of these flowers completely. A more complete description will be given in the next book listing.

SEED and POTTING COMPOSTS. \$1.75

By Lawrence and Newell. Rev. 4th edition, 160 pp., 30 figs., 122mo., cloth. London, 1950. New in dust wrappers.

The authors are the developers of the standardized John Innes composts. Their book shows how those remarkable composts save time, reduce the hazards of raising difficult plants from seed and simplify proper potting on the seedlings or cuttings to maturity. Complete formulas and methods of preparation are given.

AUSTRALIAN WILD FLOWERS 75¢

National Handbook 9, 32 pp, 23 illus. (16 in full color). Melbourne, 1944. Gives notes on garden cultivation and identification lists of 106 wild flowers.

PIONEER SEED COMPANY
Dimondale, Michigan, U.S.A.

GARDEN CLUBS

Mrs. R. O. Powelson, of Missouri, writes: The article by Walter Welch, suggesting we broaden our visions by belonging to the specialized garden clubs, is just fine, and I would like to carry the suggestion a little farther. Belong to a garden group and affiliate with your state organization. Its then you begin to get an understanding and a realization of the wonderful part you are having. I should have said you belong to a state organization that is a part of the National Council of State Garden Clubs, Inc.

I belong to three specialized national organizations and feel I know both angles, having served the state of Missouri as their president of Federated Garden Clubs for two years and know the good that comes from the little community clubs, to the members as well as the community, so when you can, want you suggest that folks try to organize groups in their vicinity?

We of Missouri only accept a group for our organization with as few as eight members and if they once get started with a local group, then the societies for specialized flowers will profit from them.

The cost in printing and mailing has reached such a high figure that we cannot mail copies out monthly free as in the past. The subscription price is but \$2.00

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

HERB SEEDS

CHEVRIL (CHUR-vil)

(Anthriscus cerefolium) Plain leaf Chevril, of Parsley Family, whose Parsley-like leaves are used for flavoring salads. Grows 18-24". Sow seeds in early spring or late fall, in any good garden soil, some shade best and produces leaves for use in 6-10 weeks. Pkt. 15¢; Oz. 40¢

CHEVRIL, Curled Leaf

Similar to the plain leaf type except that the curled leaves are more used for garnishing, similar to Parsley. Pkt. 15¢ Oz. 40¢

CHICORY, Brussels Witlof. (Special Strain)

(Chicorium intybus) A perennial herb, the roots of which can be dried and used as a substitute for coffee; the leaves are used when young and tender as greens or those of the older plants are blanched much as is Celery. The leaves are forced

during fall and winter to produce loose white or pink leaves or Witlof or French Endive. Sow early in spring, thinly in rows 18" apart, thin to 6 in. in row. Dig roots in fall, cutting tops to 1" and store in pit or root cellar; for Witlof, shorten the roots to 8-9", cutting the lower end, bury upright in damp sand or soil covering tops with 6-8 inches of the soil and keep at about 60 degrees F; in 2-3 wks the blanched heads 5-6" long can be cut for use. Pkt. 15¢; ¼ lb. \$2.00.

CHICORY, van Spronsen's Variety.

A special select variety of Brussel Witlof. Pkt. 15¢; Oz. 35¢; ¼ lb. \$1.50.

CHIVES (Chy-vz)

(Allium schoenoprasum) Perennial developing a thick grass-like tuft and valued for their mild onionlike flavor, the green stems being used in salads, soups, etc. The oftener the leaves are cut the stronger the plant will grow. Sow seeds early in the spring, in rows 2-3 feet apart and thin plants to 6" apart. Pkt. 15¢; Oz. 90¢

CORN SALAD

(Valerianella locusta, variety oiltoria) Dutch Broad Leaf, Large Seeded. Also known as Fetticus, Veticost and Lambs-lettuce. Grown in early spring or late fall as a pot-herb or salad; seed sown in early fall, some plants will get large enough for fall use and the balance with flavoring soups, either in green state or dried. Pkt. 15¢; Oz. 35¢

MERCURY (Chenopodium Bonus-Heuricus)

A hardy perennial. Seed sown in spring in a seed bed and pricked out once before planting in its permanent quarters. Leaves eaten like Spinach or the shoots may be blanched by simply earthing them up and using like Asparagus Pkt. 25¢

MALABAR SQUASH.

(Cucubita ficifolia) This is the "Cabellos de Angel" or Angel's Hair of Spanish America. The fruits are 10" long, 7" diameter, with very smooth glossy skin of a dark green color, striped and mottled with greenish white. After being boiled the thread-like pulp can be dressed in several ways. Oz. 50¢; Pkt. 20¢

PIONEER SEED COMPANY

DIMONDALE, MICHIGAN

THE SIBERIAN IRIS

In looking at the Siberian Iris plantings made in the fall, I have made up my mind to try spring planting in the future.

Too many are lost each spring by the heaving out of the ground as well as too much work is required setting them over again in the spring.

No doubt they can be easily grown by planting in the fall, especially in small planting where one can pay attention to them all winter but in large field plantings we will try spring planting for a while:

The subscription price is still but \$2.00 for 12 issues;

SINNINGIA - SISYRINCHIUM

Sedum continued on page 232.

—acre. Vigorous, spreading; mats rich green; golden stars; 4"; HP..... SEDM-2. 20¢
—album x murale. Purple fol; pinkish fls; creeping mat forming; 8"..... SEDM-8M. 25¢
—caeruleum. Blue flowered; 4 in; HA..... SEDM-28. 20¢
—Kamtschaticum. Orange-yellow, ¾" ac; summer; N. E. Asia; HP..... SEDM-72 (C). 50¢
—floriferum. Yellow, ½" ac; semi-evergreen; July-Aug; China; HP..... SEDM-57 (C). 40¢
—Leibergerii. Fine RG; fleshy spoon-shaped lvs; golden stars; 10"; HP..... SEDM-76. 25¢
—oreganum. Green lvs; bright yellow fading to pink; HP..... SEDM-100. 20¢
—regium. Yellowish or greenish fls; 1 ft; HP..... SEDM-127. 25¢
—sempervivoides. Red fls ½ in. ac; 1 ft; HBB..... SEDM-138 (C). 30¢
—spectabile Brilliant. Fls 1½" ac. red; glaucous; 18"; HP..... SEDM-146B (C). 40¢
—spurium coccineum. Creeping, mats; 6"; nearly ev; red fls; HP..... SEDM-148C. 25¢
—Tatarinowii. White to pink fls; 8 inchs; HP; China..... SEDM-158. 25¢
—Sedum Mixture. All kinds mixed..... SEDM-X. 25¢

SEMPERVIVUM. (sem-per-VY-vum) HOUSE-LEEK. Crassulaceae.

Succulent plants or sub-shrubs with thick fleshy leaves and very much like the Sedums. Flowers are in dense heads, white, pink; greenish, yellow or purple. They are excellent for the rockery and thrive in sandy soils, sunny dry positions. The tender sorts make excellent house plants. All easily grown from seed sown like any perennial.

—caespitosum. (Aeonium c.) Tender sh; lovely golden fls..... SEMP-16. 30¢

SENECIO. (se-NEE-she-oh) GROUNDSEL. CINERARIA. Compositae.

A large and variable genus including shrubs and trees. They are usually easy to grow from seed in a good loamy soil. The greenhouse Cinerarias correctly belong here. Many of the herbaceous sorts are grown for their flowers.

—ambracens. SENE-4. 25¢
—diversifolia. Low growing sh; yellow fls; HP..... SENE-21. 25¢
—doronium. Orange Daisy. 1 ft; RG; HP..... SENE-24. 25¢
—elegans. Fls heads loose corymbs, rays purplish, disks yellow; 2' HA..... SENE-29. 15¢
—jacqmontiana. Collected in the Himalayas; HP..... SENE-30. 50¢
—macrogloussus. Cape Ivy. Bright yellow daisies; herb. cl; TP..... SENE-43. 25¢
—Purshiana. Western sp; light gray fol; bright yellow heads; 1' HP..... SENE-58. 20¢
—scandens. Climber to 20 ft; loose panicles; yellow ray fls; 3-4 ft, HP..... SENE-65. 20¢
—Senecio Mixture. All species mixed..... SENE-X. 20¢

SEQUOIA (see-KWOY-uh) sempervirens. Redwood. Oz. \$1.10; Lb. \$1000..... SEQU-1. 50¢
—gigantea: see Sequoiadendron giganteum. Giant Sequoia of California.

SEQUIADENDRON (see-kwoy-ad-DEN-dron) giganteum. Giant Sequoia. It has grown in Central N. Y..... Oz. \$1.50; lb. \$14.00..... SEQU-1. 50¢

SEQUOIA..... (se-KWOI-ah) Taxodiaceae.

The large evergreen tree of California growing to 300 ft. They grow only near the sea where the fogs occur.

—gigantea. Giant Sequoia (Sequoiadendron) Oz. \$2.00 SEQ-1. 25¢
—sempervirens. Redwood. (Calif. seed only)..... Oz. \$1.75..... SEQ-2. 25¢

SERRATULA. (ser-RA-tu-la) Compositae.

Perennials allied to Centaurea. Flowers are either single or in corymbs, of disk flowers. Good in the border.

—coronata. SERR-1. 25¢

SESBANIA emerus. (microphylla) 16 ft, shrub; tender, for South..... SESB-3. 30¢

—Zambesiaca. South Rhodesian species..... SESB-6. 30¢

SETARIA. (c-TAY-re-ah) Gramineae.

Tender annual and perennial grasses; start indoors early and transplant outside when frost danger is over.

—italica. Fox-tail Millet. Ornamental grass; 5 ft; TA..... SETA-1. 15¢

SHAMROCK.

—True Irish..... SHAM-1. 20¢

SHEPHERDIA. (she-PUR-de-ah) Elaeagnaceae.

Shrubs and small trees, adapted to dry rocky soils, very hardy and they do well near the seaside. Sow seeds in the fall or stratify. Will quote by lb. if interested.

—argentea. Buffalo Berry. Thorny; 18"; very hardy hedge plant..... SHEP-1. 25¢

—canadensis..... Thornless; fruit red or yellow; very hardy; 8ft..... SHEP-2. 25¢

SIDALCEA. (si-DAL-see-ah) Malvaceae.

Flowers are like miniature Hollyhocks, in spikes or clusters. Thrive in a rich sandy soil. The perennials bloom over a long period; good for the flower border.

—Stark's Hybrids. Excellent color range; 3 ft; HP..... SIDA-55. 20¢

SILENE. (sy-LEE-nee) CATCHFLY, CAMPION. Caryophyllaceae.

Annual, biennial and perennial plants in many species, most showy and valued both in the border and rockery. The seed of the annuals can be sown in the fall, which will produce earlier flowers.

—acaulis. Pink fls; moss-like tufted perennial; May-Aug; HP..... SILE-1(C). 40¢

—v. elongata. SILE-1E(C). 40¢

—alpestris. Glistening white fls; ½" ac; panicles; June-Aug; 6 in; HP..... SILE-4. 20¢

—flora pleno. Double flowered form..... SILE-4D. 25¢

—fl. pl. Fully double fls, 4 in. stems; May; well drained soil; HP..... SILE-4D(W). 30¢

—armeria. Bright magenta fls; 1 ft; HP; sow late fall or ey sp..... SILE-6. 25¢

—Peach Blossom. Compact, flesh colored fls in drooping rac; 10"; HP..... SILE-6B. 25¢

—pendula. Rose and white fls; 20"; HP..... SILE-6P. 25¢

—New Ari Shades. Dwarf, double; RG; HP..... SILE-6A. 20¢

—Fortunii. Rose or white fls; best grown as HA; Sept; 3 ft; HP..... SILE-37. 15¢

—Hookeri. White or pink fls; 2" ac; lovely for RG; 5 in; HP..... SILE-48. 25¢

—maritima. Pretty white fls; RG; 5"; HP..... SILE-62. 15¢

—pendula Rose. Rose fls; ½" ac; drooping racemes; 10 in; HA..... SILE-75. 15¢

—Bonnetii. Purplish fls; stems brow-red; 10"; HA..... SILE-75B. 20¢

—Byou. Double salmon-rose fls; 10"; HA..... SILE-75Y. 20¢

—White. Attractive white; 10 in; HA..... SILE-75W. 20¢

—Triumph. Compact double crimson; HA..... SILE-75T. 20¢

—Shafta. Rosy purple fls; RG; 6 in; HP..... SILE-100. 20¢

.When marked with a star as *HHP or *HB, treat the plant as an annual in the North.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

SOLDANELLA - STRELITZIA

SINNINGIA. (sin-NIN-jee-ah) GLOXINIA. Gesneriaceae.

Brazilian plants with tuberosous corm-like roots. The Gloxinia being the best known and requires a warm humid atmosphere and shade; after blooming store at 45 degree F until following February; do not wet leaves.

—**Speciosa**. Gloxinia; seed saved from large collection of best colors..... **SINN-25. 25¢**

SISYRINCHIUM. (sis-ir-RIN-ee-um) BLUE-EYED-GRASS. Iridaceae.

American grass-like perennials with small blue or yellow flowers. Attractive in colonies in open rather moist places. They are easily grown.

—**augustifolium**. Blue stars with yellow eyes; 6"; RG; HP..... **SISY-1. 25¢**
 —**Bermudiana**. Large blue fls; sunny RG; 9"; HHP..... **SISY-2. 25¢**
 —**californicum**. Bright yellow fls, 1/2" long; 1 ft; HP..... **SISY-7. 25¢**
 —**Douglasii**. Best; large violet to white fls; 8"; HP..... **SISY-10. 25¢**
 —**grandiflorum**: see **Douglasii**.
 —**striatum**. Yellow fls striped; 3 ft; attractive; HP..... **SISY-23. 25¢**
 —**Sisyrrinchium Mixture**. All species mixed..... **SISY-X. 20¢**

SKIMMIA. (SKIM-mee-uh) Rutaceae.

Evergreen shrubs native of China and the Himalayas, with small white flowers in terminal panicles. An ornamental shrub for the South, not hardy north but can be grown indoors as a pot plant.

—**japonica**. Bright red fruits; 5 ft; HHP..... **SKIM-1. 25¢**

SMILACINA. (smy-lah-SYE-nah) FALSE SOLOMON'S SEAL. Liliaceae.

Perennial rhizomatous plants; small white or greenish flowers in terminal racemes or panicles. Moist, part shady places; nice in colonies; easy

—**stellata**. Wild Lily-of-the-Valley. 10"; May-June; HP..... **SMIL-5. 20¢**

SNAPDRAGON: see **Antirrhinum**.

SOLANUM. (soh-LAY-num) NIGHTSHADE. Solanaceae.

A very large genus to which the potato and egg plant belong. It is a rather confused genus and the interesting species to the flower grower are the ornamental berried species, such as the popular Jerusalem Cherry. Sow seeds of the annuals where they are to grow; the perennials can be started indoors early or handled like any other tender perennial. They are easy to grow, many making excellent indoor pot plants.

—**aculeatissimum**. Decorative plant having bright scarlet fr; 2 ft; TP..... **SOLN-1. 25¢**
 —**Capsicastrum**. Scarlet or orange pointed fruits 1/2" ac; 2 ft; TP..... **SOLN-10. 25¢**
 —**Hendersonii**. Hybrid; orange-red oval fruits; nice pot pl; 15"; TP..... **SOLN-23. 25¢**
 —**marginatum**. Yellow globose fruits; 1 1/2" ac; spiny sh; to 4 ft; TSh..... **SOLN-32. 25¢**
 —**nigrum**. Black fruits used in preserves, pies, etc; forms known as Garden Huckleberry, Wonderberry; 2 1/4 ft; TA..... **SOLN-35. 25¢**
 —**Pseudo-Capsicum**. Jerusalem Cherry. Scarlet or yellow fr; 2 ft; TP; Mixed..... **SOLN-36X. 25¢**
 The popular Xmas Cherry pot plant of the florist..... **SOLN-36C. 25¢**
 —**Clevelandii**. Select foliage; bright red round fr; 18"; TP..... **SOLN-36H. 25¢**
 —**Blavacek's Masterpiece**. Compact 15" var for pots; bright red fr;..... **SOLN-36P. 25¢**
 —**Hendersons New Paterson**. Compact form; bright scarlet fr; 15"..... **SOLN-45. 25¢**
 —**texasanum**. Spineless form; Scarlet Tomato; 3 ft; TA..... **SOLN-49. 25¢**
 —**verbascifolium**. A tree to 30 ft; fruits yellow; for the S; TP..... **SOLN-X. 20¢**
 —**Solanum Mixture**. All kinds mixed.....

SOLDANELLA. (sol-dan-NEL-ah) Primulaceae.

Perennial plants with nodding blue, violet or white fringed flowers native of the Alps. They thrive in moist shady places in the rockery.

—**alpina**. Roundish lvs; pale blue fls in umbels; 6"; HP..... **SOLD-1. 25¢**

SOLIDAGO. (sol-id-DAY-goh) GOLDENROD. Compositae.

Erect perennials with golden yellow Goldenrod flowers, many of which are excellent border plants. Do not fertilize them too much; easily grown from seed.

—**elongata**. Compact fl clusters, yellow; 3 ft; HP..... **SOLI-17. 20¢**
 —**missouriensis**. Dwarf sp; 18" tall; golden heads in panicles; HP..... **SOLI-35. 25¢**
 —**Solidago Mixed**. Above mixed..... **SOLI-X. 20¢**

SOPHORA. (sof-FOH-uh). Leguminosae.

Showy ornamental woody plants when in bloom; flowers in terminal panicles or racemes, followed by cylindrical or 4-winged pods. They are not hardy in the North, especially the evergreen species. Write for prices in quantity if interested.

—**japonica pendula**. Japanese Pagoda Tree. To 50 ft; hardy in N..... **SOPH-3. 25¢**
 —**secundiflora**. Mescal Bean. Frag; violet-blue fls; ev sh to 30 ft; Tex..... **SOPH-6. 25¢**
 —**tomentosa**..... **SOPH-8. 25¢**
 —**viciifolia**. Dec. sh to 8 ft; bluish violet fls in racemes; hardy in N..... **SOPH-9. 25¢**
 —**Sophora Mixed**. All kinds mixed..... **SOPH-X. 20¢**

SORBUS. (SOR-bus) MOUNTAIN ASH. Rosaceae.

Deciduous shrubs and trees, hardy in the North. They thrive in dry soil. Sow seeds when ripe or stratify over winter. Ask for bulk prices if interested.

—**americana**. American A. To 30 ft; hardy..... **SORB-2. 25¢**
 —**Aria**. White Bean-tree. To 50 ft..... **SORB-5. 25¢**
 —**Aucuparia**. European Mountain Ash. To 50 feet..... **SORB-6. 25¢**
 —**commixta**. To 25 ft; native of Japan and Korea..... **SORB-9. 25¢**
 —**domestica**. Service Tree. To 50 ft; native N. Af. W. Asia..... **SORB-13. 25¢**
 —**terminalis**. Wild Service T. To 50 ft; native of N. Af; Asia Minor.... **SORB-32. 25¢**

SPARTIUM. (SPAHR-tee-um) SPANISH or WEAVER'S BROOM. Leguminosae.

Ornamental shrubs native of S. Europe and hardy to Ohio river and the Pacific Coast.

—**juncum**. To 10 ft; rush-like branches; yellow fls; TSh..... **SPAM-1. 25¢**

SPATHOLÆA. (spath-OO-de-ah) Bignoniaceae.

Tropical African evergreen trees suitable only for the far South; they are very beautiful trees when in flower.

—**nilotica**. Dwarf Af. Tulip Tr; red tulip fls; beautiful; frost tender.... **SPAT-3(M). 25¢**

SPECULARIA. (spek-u-LAY-re-ah) Campanulaceae.

Annual plants resembling Bellflowers, excellent for the rockery, border or for edging; easily grown from seed.

—**Speculum-Veneris**. Venus Looking Glass. Edging; violet-blue; 12"; HA..... **SPEC-3. 20¢**

Vesicaria Utriculatr

The plant growth of the Bladder Pod is a 6 foot shrub. The leaf formation is similar to the white locust, but small in comparison, 1/2" x 1/4". The flower is a pea type, 3/8 to 1/2 inch in size. Color a nice clean ochre-yellow. Each petal having little brown dashes radiating from their attachment to the flower.

The branches bearing these flowers are about 24 inches long, each bearing 15 to 20 blossoms. These are formed on 4 inch twigs bearing 3 to 6 inflated pods, at maturity. The pods are inflated, the size being about 2 1/4 inch long. The maximum diameter about 3/4 inch. The inflation procedure commences when the pod is about 3/4 inch long. During their greenness the children like to hear the explosion, following a thumb and finger squeeze. Adult kids, too, get a grin from hearing the noise.

The early growth makes pods, while the new growth makes flowers, simultaneously. The entire plant is a pretty growth, a light green, of open structure, either alone commences after ripening of seed. The pods will hang on fully formed (brownish yellow) until the rain and wind deteriorate the pods.

The plant is hardy here, having endured 28 degrees Far. in our Los Angeles winters. This is rather cool for a plant coming from the Mediterranean region. The anatomy is similar to the Cottonwood tree. It does well with a little water, or plenty, in this brown clay soil.

By J. C. Green, Los Angeles, Calif.

CHRISTMAS PEPPER PLANTS

Those having glass should start a few seed of the Christmas Peppers for both sale or for their own use.

The seed may be sown now until late June. Unlike the Christmas Cherries, the Peppers are best kept in the greenhouse in pots during the summer. The seedlings should be placed in 2 1/4 inch pots when large enough to handle and when the roots start to crowd in the pots, shift to 6-inch pans. On early sown seeds, the plants can be pinched once but from the June sown plants it is best not to do this but to let them grow on without pinching in any way.

The young plants must be watched carefully that they do not dry out; it is also important to feed them a complete fertilizer during the growing period in summer, that good heavy foliage and a good set of fruits are produced.

In the seed lists you will find these seeds listed under Solanium.

YOUR DIANTHUS PLANTS

Your Dianthus will soon be in flower. Many of them, especially some of the cushion types, will bloom themselves to death, if allowed to go to seed.

As soon as the flowers start to fade, shear them off, down into the foliage, which will give the additional benefit of keeping the plant within bounds. You will very often have a second bloom later on as well as having a brighter color to the foliage.

It is also a good plan to mulch the plants early in June with fine rotted compost. An inch or so deep is excellent. The plants seem exhausted after flowering and this attention often saves the plants.

GET EVERY ISSUE — \$2.00 PER YEAR

RARE SOUTH AFRICAN SEEDS

The following list of rare and hard to find seeds are all native South African species. Some are already in stock and others will soon be in; all are not in large quantity.

MONOCOTYLEDONS

(Including plants with bulbs, corms, tubers and fibrous roots)

PRICE: 50¢ per packet; 5-\$2.00; postpaid.

AGAPANTHUS campanulatus.

- longispatus.
- orientalis (blue).
- (white).
- pendulus.
- Weillighii.
- species (dark blue).
- species mixed.

ARISTEA Ecklonii.

- thyrsoflora.

BABIANA atrocyanea.

- erectifolia.
- macrantha.
- rubrocyanea.
- sambucina.
- strita.
- sulphurea.
- ssp. mixed.

BULBINELLA robusta.

- v. latifolia.

CYANELLA alba.

- napensis.
- lutea.
- ordhidiiformis.

DIERAMA pendulum.

- ssp. mixed

DIPIDAX triquetra.

EUCOMIS punriata.

- undulata.
- ssp. mixed.

FREESIA spp. mixed and hybrids.

GALTONIA landirans.

GLADIOLUS psittacinus.

GLORIOSA spp. mixed.

HEXAGLOTTIS longifolia.

- virgata.

HOMERIA Brayniana.

- lilaciana.
- ssp. mixed.

HYACINTHUS paucifolius.

IXIA spp. mixed and hybrids.

KNIPHOFIA spp. mixed.

LACHENALIA Bachmannii.

- contaminata.
- juncifolia.
- lilifolia.
- mediana.
- irrhypetala.
- pallida.
- reflexa.
- unicilic.
- sp. (violet).
- ssp. mixed.

MOREA iridides.

- polystachya.
- ramosissima.
- spathacea.

ONITHOGALUM Saundersia.

- thysoides.
- ssp. mixed.

PHOENIX reclinata.

ROMULEA bulbocodioides.

- rosea.
- ssp. mixed.

SPARAXIS Pillansii.

- ssp. mixed.

STRELITZIA parviloia.

- v. juncea.
- Reginae.

TRITONIA spp. mixed.

WACHENDORFIA paniculata.

- thysiflora.

WATSONIA angusta.

- Ardernei.
- Beatricis.
- densiflora.
- var. alba.
- Fourcadei.
- marginata.
- Meriana (cream).
- (pink).
- pyramidata.
- Vanderpuyae.

Continued on Page 236

SWEET PEAS - TALINUM

SPRAGUEA. (SPRAYG-ee-ah) PUSSY PAWS. Portulacaceae.

Small alpine plants with rosettes of thick fleshy evergreen leaves and heads of fluffy pink flowers on prostrate stems; excellent in rockery in light shade.

—multiceps. Dense heads rose-purple fls; 6"; native Wash-Wyo..... SPRG-1. 25¢

STAPHYLEA. (staf-il-LEE-uh) BLADDER-NUT. Staphyleaceae.

Ornamental shrubs or small trees, white flowers in terminal panicles and bladder-like fruits. Most are hardy in the North; they prefer partial shade, moist rich soil. Sow seeds when ripe or stratify till spring. Ask for bulk prices if interested.

—trifolia. To 15 ft; fls in nodding panicles; fr 3" long; native E. U. S..... STAP-9. 25¢

STAR OF TEXAS: see ZANTHISMA.

STATICE: This genus has been recently reclassified and all its species are now in either *Ameria* or *Limonium*, which see.

STENOLOBIUM stans v. velutina. Ornamental sh; lge golden fls; TSh STEB-IV. 35¢

STEWARTIA. (stew-ART-ee-uh) Theaceae.

N. American and Asian shrubs and trees, with showy white flowers. They are ornamental, fairly hardy in the North; mixture of peat and loam soil best; ask bulk pr.

—koreana. Tree to 50 ft; Korea..... STEW-1. 75¢

—monadelphica. Tree to 80 ft; Japan..... STEW-4. 50¢

—Pseudo-Camellia. Tree to 50 ft; fls 2½" ac; white stamens; orange ant.... STEW-7. 25¢

STIPA. (STY-pa) SPEAR or FEATHER GRASS. Gramineae.

Perennial ornamental grasses, with awn-like spikelets borne in panicles and very popular as an ornamental grass.

—pennata. Very pretty; tufted to 3 ft; dense plumes; HP..... STIP-3. 20¢

STOCKS: see *Mathiola* and *Malcolmia*.

STRELITZIA. (strel-LITT-see-ah) BIRD-OF-PARADISE FLOWER. Musaceae.

South African perennials with banana-like leaves; odd fls; grown in S or in tubs in N.

—Nicolai. To 18 ft; fls white, blue tongue; lvs. 4 ft wide; TP..... STRT-3. 35¢

—Reginae. Trunkless; fls yellow with dark blue tongue; TP..... STRT-6. 25¢

STREPTOCARPUS. (strep-toh-KAHR-pus) CAPE-PRIMROSE. Gesneriaceae.

They are of easy culture and thrive in a cool greenhouse. Sow seeds in Feb. or March for flowering plants the following autumn and winter.

—Hybrids. Gold Medal Strain..... STRP-4. 35¢

STROBILANTHES. (stro-bil-ANT-thes) Acanthaceae.

Plants and shrubs of tropical Asia, grown in the open in the S. Their flowers and foliage are very attractive.

—isophyllus. Lvs willow-like; fls pinkish; 3 ft..... STRO-4. 25¢

STYRAX. (STYE-rax) STORAX. Styracaceae.

Shrubs and trees with showy white flowers in racemes followed by fruits. Few are hardy enough in the North. They thrive in light soils. Ask for bulk prices.

—americana. To 10 ft; hardy to N. Y.; native of Va..... STAX-1. 25¢

—japonica. To 25 ft; fls fragrant; hardy in North..... STAX-6. 25¢

—Obassia. To 30 ft; fls frag; hardy in N; Japan..... STAX-8. 25¢

—Styrax Mixed. Above kinds mixed..... STAX-. 20¢

SWEET PEAS.....(Lathyrus odoratus) Leguminosae.

Germ. 10 days.

In the North, Sweet Peas should be started very early in the spring, sowing the seed where they are to grow and about 3" apart in the row. In the South and on the West Coast, they are planted in the fall, when they flower early in the spring. To keep them blooming, the flowers must not be allowed to go to seed. See special articles on further cultural directions. You will find that the varieties offered here are the best.

SPENCER VARIETIES: The most popular for garden growing, especially in the North. The varieties listed represent the very best and latest strains; there are none better.

—Bonni Briar. Large rose-pink..... SPEA-1BB. 15¢

—Burpee's Best White. White seeded..... SPEA-1BW. 15¢

—Capri. Clear silver blue; excellent..... SPEA-1C. 15¢

—Charming. Pretty flushed rosy cerise..... SPEA-1CM. 15¢

—Chieftain. Pure satiny mauve..... SPEA-1CH. 15¢

—Elstree. Bright pink on cream, shaded darker..... SPEA-1EL. 15¢

—Excelsior. Scarlet-orange, wings shaded darker..... SPEA-1EX. 15¢

—Flagship. Deep navy blue with darker shading..... SPEA-1F. 15¢

—Gigantic. (G. M.) White, black seeded; very good..... SPEA-1G. 15¢

—Gold Crest. Orange tinted salmon, shading darker..... SPEA-1GC. 15¢

—Grand Slam. Cerise-scarlet, suffused..... SPEA-1GS. 15¢

—Mastercream. Cream, black seeded..... SPEA-1M. 15¢

—Mrs. R. Bolton. (NEW) Deep almond pink, very large flowered..... SPEA-1MB. 15¢

—Mrs. A. Searles. Bright salmon-cerise..... SPEA-1MS. 15¢

—Patricia Uuwin. Salmon-pink suffused gold..... SPEA-1P. 15¢

—Pink Frills. (Gold Medal Winner) Rich salmon-pink on cream..... SPEA-1PF. 15¢

—Radar. Best rich salmon-pink..... SPEA-1R. 15¢

—Red Boy. Pure rich crimson, long stems; vigorous..... SPEA-1RB. 15¢

—Welcome. Dazzling scarlet..... SPEA-1W. 15¢

—What Joy. Deep rich cream, white seeded..... SPEA-1WJ. 15¢

—Youth. White, edged rose-pink..... SPEA-1Y. 15¢

—Formula Blend. Hand made blend of the above named varieties..... SPEA-1XF. 15¢

PRICES: All above; Oz. 25¢; ¼ lb. 75¢; Lb. \$2.25, prepaid

—Unrivaled Mixture. Contains a fine selection of the largest and most attractive named varieties, including the newest novelties; this is not field grown mixture. Ounce 25¢; 4 Ounces 70¢; Lb. \$2.00, prepaid..... SPEA. 1XR. 15¢

EARLY or WINTER FLOWERING: This group is equally satisfactory for garden or greenhouse growing. The varieties listed are the very best for greenhouse culture and are listed under their original names. There are none better.

—American Beauty. Rich crimson-rose, shaded deep crimson..... SPEA-2A. 20¢

—Annie Laurie. Pure rose, white base; vigorous grower..... SPEA-2AL. 20¢

—Ball Blue Supreme. Best clear deep blue..... SPEA-2BS. 20¢

—Ball Rose Supreme. Large wavy silvery rose-pink flowers..... SPEA-2BR. 20¢

SWEET PEAS Continued on Page 235

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

TAMARINDUS - THUJA

SWEET PEAS Continued from Page 234

| | |
|--|-------------------------------------|
| —Blue Boy. Beautiful dark blue..... | SPEA-2BB. 20¢ |
| —Burpee Orange. Clear orange, shaded..... | SPEA-2BO. 20¢ |
| —Cascade. Best white; white seeded..... | SPEA-2C. 20¢ |
| —Elk's Purple. Large reddish purple; long stems..... | SPEA-2EP. 20¢ |
| —Giant Pink. Pink blended with soft rose, more intense on edges..... | SPEA-2GP. 20¢ |
| —Grenadier Improved. Dazzling crimson-scarlet; vigorous..... | SPEA-2G. 20¢ |
| —Kate Smith. Scarlet, suffused rose; long stems, large flowers..... | SPEA-2K. 20¢ |
| —Mars. Rich deep crimson..... | SPEA-2M. 20¢ |
| —Mrs. H. S. Reddick. Brilliant flesh pink suffused salmon; immense fls..... | SPEA-2R. 20¢ |
| —Orange King. Glowing intense orange with crimson shadings..... | SPEA-2OK. 20¢ |
| —Oriental. Deep cream; black seeded; large flowers..... | SPEA-2N. 20¢ |
| —Princess Blue. Rich belledonna blue; vigorous..... | SPEA-2PB. 20¢ |
| —Shirley Temple. Delightful soft rose-pink, fluted, long stems..... | SPEA-2ST. 20¢ |
| —Supreme Orange. (Zvolanek's) Cerise wings, orange standards..... | SPEA-2S. 20¢ |
| —Twilight. A very pretty lavender variety..... | SPEA-2T. 20¢ |
| —Zvolanek's Salmon. Salmon-cerise, large flowers; robust..... | SPEA-2Z. 20¢ |
| —Florist Blend. A hand made blend for the grower needing but a small amount of seed; in best proportions PRICE: Oz. 40¢; ¼ lb. \$1.30; 1 lb. \$3.00. | SPEA-2FX. 20¢ |
| —Extra Choice Mixed. Well balanced mixture of newest and brightest colors. Especially for garden growing | Oz. 35¢; ¼ lb. \$1.10; 1 lb. \$2.75 |
| | SPEA-2X. 20¢ |

SPRING FLOWERING CUTHBERTSON: A new intermediate season type, whose main recommendation is heat resistance. The colors are plainer and not as good as in the Spencers. We recommend them for the South.

—Finest Mixture.....Oz. 25¢; 4 Oz. 80¢; 1 lb. \$2.25..... SPEA-3X. 15¢

SYMPLOCOS. (sim-PLOH-kos) SWEET-LEAF. Symplocaceae.

Trees and shrubs of ornamental value. Seeds are slow to germinate.

—paniculata. To 30 ft; deciduous; white frag. fls; fr. blue; HTR..... SYMP-1. 25¢

SYNCARPIA (syn-CAR-pe-ah) Myrtaceae.

Australian evergreen trees, white fls and an ornamental tree in the South.

—glumulefera. Turpentine Tree. Handsome tree to 150 ft in warm climates; showy cream fls; good fol; curiously formed seed cases; timber valuable.... SYNC-1M. 50¢

SYNTHYRIS. (SINTH-uh-riss) Scrophulariaceae.

Native N. American perennials with basal leaves and wheel-shaped 4-lobed flowers in spikes or racemes. Grown in the border.

—Hendersonii. Sky-blue fls ¼" long; RG; 3 inches; HP..... SYNT-8. 25¢

SYRINGA (sihr-RIN-guh) LILAC. Seed gathered from choice named varieties. Seed best stratified and sown in spring..... SYRI-X. 25¢

TALINUM. (tah-LY-num) FLAME FLOWER. Portulacaceae.

Many small fleshy perennials with erect clusters of pink, red or yellow flowers. Some hardy, others grown in tubs indoors during the winter.

—paniculatum. Red to yellow fls in panicles; 2 ft; for the S..... TALI-5. 20¢

TAMARINDUS. (tam-ah-RIM-dus) TAMARIND. Legummosae.

Tropical evergreen trees, grown in the far South for ornament; the fruits are edible and used in drinks. Best in deep soil and plenty of moisture.

—indica. Massive picturesque tree with pale yel. fls; pods 8"; TTr..... TAMA-1. 25¢

TARCHONANTHUS. (tar-sho-NAU-thus)

—camphoratus v. litakunsi. Wild sage. Sh; masses of pale yellow fls seeds in cottony ball; very attractive; S. Rhodesia; for South..... TARC-1. 25¢

TAXODIUM. (tax-OH-dee-um) BALD CYPRESS. Taxodiaceae.

Trees with needle-like lvs; fls in catkins. Ask for bulk prices if interested.

In S. sow seeds in Dec. or early spring; stratify in sand or peat, 30-60 days; mulch seed beds; germination period 40-90 day.

—distichum. Deciduous, hardy in the North..... TAXO-2. 25¢

TAXUS (TAX-us) cuspidata. Japanese Yew.....Oz. 45¢; 1 lb. \$4.00..... TAX-6. 25¢

TELEKIA: see BUPHTHALMUM.

TEPHROSIA. (tef-ROH-se-ah) (Crocca) Leguminosae.

Plants or shrubs, red, purple or white fls in racemes, followed by flat pods.

—candida. Sh. to 10 ft; white fls 1" long; pods 4 in; India..... TEPH-1. 25¢

THALICTRUM. (thal-LIK-trum) MEADOW RUE. Ranunculaceae.

Perennial plants with flowers in panicles or racemes, with out petals but with numerous drooping stamens. Some are attractive in masses in the border, others in the wild garden. They are easy to grow, thriving in any well drained loamy soil.

—adiantifolium. (T. minus) Greenish yellow; fine cut fol; 18"; HP..... THAL-1. 15¢

—aquillegifolium. Dainty, pretty, fluffy white or cream fls; 3 ft; HP..... THAL-5. 25¢

—diptercarpum. Rose-mauve with drooping golden stamens; 4 ft; HP..... THAL-14. 15¢

—Thalictrum Mixed. All kinds listed..... THAL-X. 15¢

THEA. (THEE-ah) Theaceae.

Evergreen trees and shrubs, showy white or pink nodding flowers. Hardy only in S.

—sinensis. TEA. Sh. to 20 ft; lvs are tea of commerce; hardy in S..... THEA-4. 25¢

TERMINALIA. (ter-min-NAY-lee-ah) INDIAN ALMOND, Combretaceae.

Pretty trees grown in the far South. Flowers are in racemes or spikes; easy.

—calamansani. Evergreen shade tr. of S. Seas; for far South..... TERM-3 (M). 75¢

TETRAPANAX. (tet-RA-pan-ax) Araliaceae.

Shrubs or small trees native of warm regions; used for the making of rice paper.

—papyrifera. Grown in the South; fls in umbels..... TETR-1. 25¢

THERMOPSIS. (ther-MOP-sis) Leguminosae.

Easily grown perennials in open sunny positions. The flowers are lupin-like, in racemes. Sow seeds in fall or spring over heat. Useful in the border.

—caroliniana. Yellow fls erect terminal racemes; N. C. - Ga; 5 ft; HHP..... THER-1. 20¢

—lanceolata. Very hardy perennial; 1 ft; yellow fls, racemes..... THER-5. 25¢

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

Transplanting Difficult Shrubs

By Percy H. Wright, Sask

Some shrubs are more difficult to transplant than others and a few seem about impossible to transplant, especially when collected in the wild. Among these is the prairie variant of the Juneberry, the so-called "saskatoon" bush, which has given its name to the city of Saskatchewan, and Lake Saskatoon in the Peace River country of Alberta. It was finally discovered that this recalcitrant subject could be handled successfully by setting out roots only or, in other words, pruning it to the ground level or below, at the time of planting. When a shrub or tree is transplanted, "out-go" will begin before "in-come", that is, the roots may be a little slow to take up moisture, and the bark may be quick to part with it. Such a circumstance naturally makes for a difficult time for any plant. It is readily seen how leaving no above-the-ground portion at all would give plants, especially those with slow roots and quick tops, their best chance.

Another shrub that needs this treatment is the Russian Almond, *Prunus nana*, it used to be *Amygdalus nana*, when I first procured seed of it, many years ago now. The flowers of this little shrub are very much worth while, pink with deeper pink buds, the two making an extremely attractive contrast and blooming so early in the spring that often it is called "Harbinger of Spring". For many years, as long as I was near a market, in fact, I used to sell sprays of this flower as bouquets for indoor use, and everyone would love their delicacy and appeal. However, unless one is willing to take good care in the transplanting of this ornamental, and willing to wait for the inevitable slow recovery that follows cutting down, it is best to start the plant from seed in the place where it is to grow. To do so, though, is to accept another handicap, for the plants do not by any means come true from seed, some being of a very much greater attractiveness than others, and the bushes varying in erectness also. Recently, or comparatively recent, new importations of this species have been made from Siberia and the best of these, I am told, (they are growing on the grounds of one of our Experiment Stations which I have not visited in the spring-time) are sure to supersede the common type.

Mr. F. L. Skinner of Manitoba, has made a hybridization of this Almond, by placing its pollen on pistils of the little fine-branched Cherry, *Prunus japonica*. The hybrid he got, named *Baton Rouge*, is a much stronger growing plant, with smaller flowers and it blooms about two weeks later. It is a showy thing, and valuable for extending the season, but the size of the flower is a disappointment after the flowers of the Almond itself. If the dates of blooming were reversed, it would have a better chance of becoming popular. Budded plants have been sold and so treated, it transplants readily enough. However, having a sort of "complex" about own-rotting, I layered it and got a rather reluctant set of roots on the various buried branches. I transplanted these out with only the ordinary amount of pruning, and was disappointed to find only a few of them living. If I had recalled my experience with the transplanting of the Almond parent, I would have cut it to the ground, according to the method recommended for the Saskatoon Bush. Here we have

(Continued on Page 237)

RARE AFRICAN FLOWERS

(Continued from Page 234)

- Wilmaniae.
- Wordsworthiana.
- n. sp. (Kleinmond).
- spp. mixed.
- Hybrids.

ZANTEDESCHIA aethiopica.
—albomaculata.

DICOTYLEDONS

ANNUALS: Including some plants best treated as annuals.

PRICE: 50¢ per packet; 5-\$2.00; postpaid.

CERATOTHECA trilobata.

CHARIEIS heterophylla.

DIMORPHOTHECA puvialis.

—sinuata.

DOROTHEANTHUS bellidiformis.

—sp. (yellow).

FELICIA adifinis.

—Bergeriana.

—tenella.

GAMOLEPIS speciosa.

—Tagetes.

GYNANDROPSIS pentaphylla.

HELIOPHILA longifolia.

MATRICARIA globifera.

—suffruticosa.

OSTEOSPERMUM amplectens.

—hyoseroides.

SENECIO arenarius.

—elegans.

SESAMUM capense.

URSINIA anethoides.

—cakilefolia.

—Calendulaeflora.

—speciosa.

—ssp mixed.

PERENNIALS

Including some plants with a normal life of 3 or 4 years and some soft-wooded shrubby plants.

AMELIUS Lychnitis.

ANCHUSA riparia.

ARCTOTIS acaulis, mixed.

—siochadifolia, mixed.

BARLERIA obtusa.

BECIUM obovatum.

CHIRONIA baccifera.

CHRYSOCOMA coma-aurea.

CLEMATOPSIS Stanleyi.

COLEUS carnosus.

DICOMA Zeyheri.

DIMORPHOTHECA nudicaulis.

—v. graminifolia.

DIPLOPAPPUS filifolius.

DISSOTIS incana.

DOBROWSKYA tenella.

ERIOSEMA cajanioides.

ERLANGEA Rogersii.

FELICIA aethiopica.

—echinata v. Paralia.

—hyssopifolia.

—rotundifolia.

—tricolor.

GAANIA leucolaena.

—spp. mixed and hybrids.

GERBERA Jamesonii hybrids.

HAPLOCARPHA scaposa.

HEBENSTREITIA comosa.

HELICHRYSUM fu gidum.

—paniculatum.

LANTANA salvifolia.

LEBECKIA Simsiana.

LEONOTIS dysophylla.

—laxifolia.

—Leonurus.

LOBELIA comosa.

—coronopifolia.

—piniifolia.

—lomentosa.

LOTONONIS cytisoides.

NEMESIA foetens.

NIDORELLA auriculata.

ORPHIUM frutescens.

Please note that all these seeds are not commonly carried in stock and thus delivery may be delayed as much as three months in many items; the offer of them here is more of a service than of seeds commonly sold.

(Continued on Page 237)

THYMOPHYLLA - TROLLIUS

THESPIESIA. (thess-PEEZ-ee-ah) PENNY CRESS. Malvaceae.

—**populnea.** One of the "tree hibiscus" group. Evergreen tr. 25 ft. bearing yellow hibiscus-like fls, turning purple by evening; resist salt spray; st. tr. THES-1 (M). 40¢

THEVETIA. (thee-VE-t-ah) Apocynaceae.

Tropical evergreen trees and shrubs with large funnellform flowers in terminal cymes followed by fruits, a fleshy drupe. Grown under glass in the N. and out doors in the far S; stands a little frost if protected with dry sand; thrives in rich sandy soil.

—**peruviana v. alba.** White Oleander; tr to 30 ft; fls white; frag. THEV-1A. 25¢

THLASPI. (THLASP-ee) PENNY CRESS. Cruciferae.

Annuals and perennials, hardy in the North, with white, rose or purplish flowers in the rockery, others for their large flat ornamental pods; easy to grow.

—**praecox.** (Jankiae) White fls; 1 ft; basal lvs in rosettes; HP. THLA-12 (C). 30¢

THOMSONIA. (thom-SON-ee-ah) Araceae.

Tropical Himalayan plants very similar to Amorphophallus. Grown in tubs, in the greenhouse, rich soil. The flower is bell-shaped, highly colored and on erect spathes. The "largest flower in the world" belongs to this family.

—**nepulensis.** 2 ft; large fleshy basal tuber; spathe green; TP. THOM-1. 50¢

THUJA. (THEW-juh) ARBOR-VITAE, CEDAR. Pinaceae.

The following can be grown from seeds. Write for prices in bulk if you use quantity. Germinates in shade with seed on moist material, as rotting wood, decayed moist material or peat. Germination usually occurs in May and June; stratify 1-2 months in moist sand.

—**occidentalis.** American Arborvitae THUJ-3. 25¢

—**aurea.** Bushy, yellow foliage. THUJ-3A. 25¢

—**pyramidalis.** Pyramidal growth THUJ-3P. 25¢

—**Warrana.** (T. robustus) Lower and more dense growth than type. THUJ-W. 25¢

—**orientalis.** Oriental A. Leaves bright green; China, Korea. THUJ-4. 25¢

—**New England grown seed.** THUJ-4NE. 25¢

—**aurea.** Golden yellow foliage in spring. THUJ-4A. 25¢

—**compacta.** (Sieboldii) Low and globose. THUJ-4C. 25¢

—**pyramidalis.** (tatarica) Branchlets yellow tipped. THUJ-4T. 25¢

—**plicata.** Giant Arbor Vitae. Tree to 200 ft. THUJ-5. 25¢

—**Standishii.** Japanese Arbor Vitae. To 50 ft; Japan. THUJ-6. 25¢

THUJOPSIS. (thew-JOPP-siss) Pinaceae.

Evergreen trees allied to Thuja, native of Japan.

—**dolobrata.** Hiba Arbor Vitae. Hardy in Ohio. THUO-1. 25¢

THUNBERGIA. (thun-BURJ-ee-ah) CLOCK VINE. Acanthaceae.

Tender climbers from tropical regions and grown in the greenhouse to be set out doors during the summer. They can be planted outdoors in the South; start seeds early in February or March.

—**fragrans.** Slender GH climber with white fragrant fls 2" across. THUN-5. 25¢

—**Mixed.** THUN-X. 15¢

THYMOPHYLLA. (tye-moh-FILL-uh) DAHLBERG DAISY. Compositae.

Low annuals and perennials from the South and Central America. Grow as annual N. —**tenuloba.** Excellent bedder; 1 ft; blooms in 4 mo; full sun. THPH-1. 20¢

THYMUS. (TYE-mus) THYME. Labiatae.

Aromatic plants with a profusion of small flowers. They all like sunny dry locations and are easily grown from seed. Liable to winter kill in heavy soils.

—**Serpyllum.** Prostrate sub-shrub; fls purplish; HP. THYM-23. 25¢

—**lanuginosus.** Grayish foliage. THYM-23L. 25¢

TIGRIDA Mixed. Mostly scarlet, with rose and yellow; Oz. 50¢. TIG-X. 20¢

TILIA. (TILL-ee-uh) BASSWOOD, LINDEN, LIME. Tiliaceae.

Sow seeds in fall or stratify. They thrive in any soil so long as it does not dry out. Kerminates best on mineral soil. The seed may become dormant as long as 6-7 years. Sow in fall or stratify 3-5 months in sand or peat, sowing in spring, when most seed germinates the second year. Nitric acid treatment is also used. too much in the summer. Write for bulk prices if interested.

—**americana.** American L. N. B. to Mo; 100 ft. TILI-1. 25¢

—**cordata.** Small leaved Linden; to 100 ft; Europe. TILI-2. 25¢

—**europaea.** Hybrid; excellent street tree. TITI-6. 25¢

—**platyphyllos.** Large Leaf L. To 100 ft. TILI-20. 25¢

—**lomentosa.** White or Silver Linden. To 100 ft; E. Eu. Asia Minor. TILI-21. 25¢

TINNEA. (tin-NEE-ah) Labiatae.

Herbaceous or somewhat woody plants with whorls of 2-lipped tubular purple flowers. They are tender in the North.

—**abysinnica.** Purple-brown fls; interesting bladder-like pods; TSh. TINN-1. 25¢

TIPUANA. (tip-yew-AN-ah) TIPU-TREE. Leguminosae.

So. Am. trees with showy flowers in panicles. They are ornamental and also a source for rose wood; for the S only.

—**Tipu.** (speciosa) 30 ft; fls yellow followed by 1½" long pods; Oz. 90¢. TIPU-1 J. 35¢

TITHONIA. (ti-THOH-ne-ah) MEXICAN SUNFLOWER. Compositae.

Robust growing plants from Mexico. They are tender annuals in the North; start the seed early and transplant outdoors when frost danger is passed.

T. ROTUNDIFOLIA: (T. speciosa)

—**TORCH.** The new G. M. Winner; orange-red; 3 ft; (see pg. 28). TITH-2T. 25¢

—**Fireball.** Brilliant scarlet; 6 ft. TITH-2F. 15¢

—**Orange Vermilion.** Glistening scarlet like large single Dahlias. TITH-2V. 15¢

—**Mixed.** Many shades of color, all beautiful. TITH-X. 15¢

TORENIA. (toh-REEN-ee-uh) Scrophulariaceae.

Florida Pansies. Tropical perennials grown in the greenhouse or as annuals in the North. In Florida they are used as substitutes for Pansies. The flowers are 2-lipped and much like Gloxinias; shady places, a rich soil best.

—**Fournieri.** Rich blue with golden centers; pots, beds; 9"; *TP. TORE-4. 20¢

—**alba compacta.** Dense habit; white corolla, yellow blotch; 9"; *TP. TORE-4A. 25¢

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

TUNICA - URSINIA - VERONICA

ORNAMENTAL TOMATO: Small fruits with tough skin that dries and does not rot; grow much like ornamental peppers and cherries..... **TOM-1. 25¢**

TOWNSENDIA. (toun-SEN-de-ah) Compositae.

Biennial and perennials closely resembling Aster, s in white, rose to violet, with rays. Not commonly grown but fine for the rockery.
—*excarpa*. Stemless, 1' tall; mauve with yellow disk; RG; pretty; HP..... **TOWN-1. 25¢**

TRACHELOSPERMUM. (trak-el-oh-SPERM-um) Apocynaceae.

Twining evergreen vines. Suitable for the South.
—*fragrans*. White fls; pots 9" long; tall climber; TP..... **TRAC-3. 25¢**
TRACHYMENE caerulea. (Didiscus caerulea) Blue-Lace-Flower; 2 ft; HA **TRAC-1. 20¢**

TRADESCANTIA. (trad-es-KANT-ee-ah) SPIDERWORT. Commelinaceae.

Perennials with blue, rose, purple and white flowers in umbels and they are grown indoors, or in baskets or in the border; easily grown.
—*Beauty Blend*. Hardy species; 3 ft; HP..... **TRAD-X. 15¢**
TRICHOSANTHES Anguina. Serpent, Snake or Club Gourd; ACL..... **TRIS-1. 25¢**

TRIFOLIUM. (trye-FOH-lee-um) CLOVER. Leguminosae.

We list here only those of ornamental value.
—*repens*. SHAMROCK. This and *Oxalis acetosella* said to be S; HP..... **TRIF-20. 20¢**
—*v. alropurpureum*. Deep bronze red with green margins lvs; HP..... **TRIF-20P. 20¢**

TRIPTERIS. (TRIP-ter-is) Compositae.

South African plants or shrubs, not hardy in the North. Flowers are daisy-like. both ray and disk flowers. Plant early in the spring.
—*hyoseroides*. Golden yellow fls, black disk; pretty; 2 ft; HA..... **TRIP-1. 20¢**
—*alpinum*. Red fls in loose heads; 4"; HP..... **TRIP-4(C). 25¢**

TRITOMA: see *Kniphofia*. Red-Hot-Poker.

TRITONIA Mixed. Culture same as for *Gladiolus*; hardy in North..... **TRIT-X. 25¢**

TROLLIUS. (TROL-ee-us) GLOBE FLOWER. Ranunculaceae.

They make nice spring flowering plants in the border if planted in a low moist place with some shade. Colors are yellow or orange and in form Buttercup-like; easy.
—*albiflorus*. Creamy white fls; 15"; HP..... **TROL-2. 25¢**
—*europaeus*. Globe Fl. (St. Wolfgang); lemon-yellow; 2" ac; HP..... **TROL-8W. 25¢**
—*Orange Princess*. Pretty orange variety; 1 ft; HP..... **TROL-8P. 25¢**
—*Ledebourii*. Yellow fls; 2 ft; sunny place in bog garden; HP..... **TROL-19. 25¢**
—*patulus*. Soft yellow fls; 2 ft; for the brook side; HP..... **TROL-19T. 25¢**
—*pumilus*. Alpine King-cup. Golden yellow cups; 10"; pretty; HP..... **TROL-20. 25¢**
—*Trollius Blend*. All above species mixed..... **TROL-X. 20¢**

TROPAEOLUM (trop-PEE-ol-um) *peregrinum*. Canary-Bird-Flower. A fine annual climber with fls 1" ac; canary yellow; 10 ft; HHA..... **TROP-7. 15¢**

TULBAGIA violacea. So. Africa; 2½ ft..... **TULB-3. 25¢**
—*So. Rhodesian species*..... **TULB-5. 25¢**

TULIPA. (TEW-li-uh) TULIP. Liliaceae.

Growing Tulips from seed is interesting, especially so with the species. Usually these come true from seed; they are easily grown but the seeds do not germinate quickly. The species, or Botanical Tulips, are very pretty and should be grown more.
—*Batalinii*. Pale yellow; early; Bokhara; 6"..... **TULP-3. 40¢**
—*bliflora*. RG sp. star-like fls white or yellow; 5"; HBB..... **TULP-4. 20¢**
—*Clusiana v chrysanthi*. Golden yellow vase-shaped; 6"; HBB..... **TULP-9C. 20¢**
—*Fosteriana*. Large crimson fls; robust..... **TULP-15. 25¢**
—*Flaming Youth*..... **TULP-15Y. 20¢**
—*stellata*. White or yellow; pretty; 8"; HBB..... **TULP-9S. 25¢**
—*Scarlet Elegans*..... **TULP-15S. 25¢**
—*Kolpakowskiana*. Turkestan..... **TULP-26. 25¢**
—*Kaufmanniana*. Beautiful; water lily-like; white, yellow, pink 8"..... **TULP-25. 25¢**
—*praestans*. Light red; Bokhara; HBB..... **TULP-41. 25¢**
—*Sprangeri*. Bright red; funnel-shaped in bud; last to flower; 12"..... **TULP-47. 25¢**
—*sylvestris*. Bright yellow, frag; 9-18"; HBB..... **TULP-51(C). 30¢**
—*tarda*. (dasystemon) Small; yellow; Turkestan..... **TULP-52. 25¢**
—*Tulip Blend*. All above mixed..... **TULP-X. 20¢**

TUNICA. (TOO-nik-uh) TUNIC FLOWER. Caryophyllaceae.

Herbaceous annuals and perennials similar to *Dianthus* in growth but smaller. For edging or the rockery.
—*saxifraga*. Tufted, spreading; pink fls; HP..... **TUNI-2. 20¢**

UNIOLA. (eu-NA-oh-lah) Gramineae.

North American perennial grasses with prominent 2-edged spikelets borne in panicles.
—*latifolia*. Pretty n thie border; 5 ft; HP..... **UNIO-1. 15¢**

URSINIA. (ur-SIN-ee-uh) Compositae.

South American annuals and perennials, the flowers daisy-like, solitary or loosely clustered. Sow seeds early indoors or direct to soil. Treat as an annual.
—*anethoides*. Jewels-of-the-Veldt. Orange fls purple centers; 18" HA..... **URSN-1. 20¢**
—*aurora*. Brilliant orange; crimson zone; HA..... **URSN-1A. 20¢**
—*cahillifolia*. Yellow or orange; S. Rhodesia..... **URSN-5. 25¢**
—*pulchra compacta*. Yellow or orange; 2" ac; rays br-purple; 2 ft; HA..... **URSN-7. 25¢**
—*Ursinia Blend*. Above mixed and many pretty hybrids..... **URSN-X. 15¢**

VACCINIUM. (vak-SIN-ee-um) BLUEBERRY, CRANBERRY. Ericaceae.

Hardy shrubs and trees grown for ornament or for their edible fruits and all thriving in rather acid soils of a peaty sand nature. Sow the seeds in the fall or stratify till spring. If interested in quantity of seed write for prices.

—*augustifolium*. (pennsylvanicum) Dec; bluish black fr; 1 ft; HSh..... **VAC-1. 25¢**
—*canadense*. Deciduous; fr; blue; 1-2 ft; HSh..... **VAC-6. 25¢**
—*corymbosum*. Highbush or Swamp B; Wortleberry; 15 ft; HSh..... **VAC-7. 25¢**
—Seed from large fruited named varieties..... **VAC-7N. 25¢**
—Mixed *Vacciniums*. All above mixed..... **VAC-X. 20¢**

RARE AFRICAN FLOWERS

(Continued from Page 236)

SHRUBS

Being South African shrubs it can be expected that many will not be hardy in the North; however, they all should be tried in the South.

PRICE: 50¢ per packet; 5-\$2.00; postpaid.

ACOKANTHERA spectabilis.

ADENANDRA fragrans.

ADHATODA Duvernoia.

ALLOPHYLUS monophylla.

ASPALATHUS sarcodes.

ATHANASIA parviflora.

AULAX pallasia.

—*pinifolia*.

BAROSMA crenulata.

—*scoparia*.

—*serratifolia*.

BAUHINIA Galpinii.

BERZELIA lanuginosa.

BRUNIA albiflora.

—*nodiflora*.

BURCHELLIA bubalina.

CALPURNIA sylvatica.

—*villosa*.

CARISSA edulis.

—*var. tomentosa*.

—*grandiflora*.

TRANSPLANTING DIFFICULT SHRUBS

(Continued from Page 235)

a good hint of how to treat the Russian Almond itself, for presumably it will bud upon something and make a still more vigorous growth in consequence. The suckering of the roots of the Almond would also be avoided, a great gain, for this thrifty little shrub is altogether too much of a weed when permitted to wander about on its own roots.

The method of planting everything below ground is a variation of the method of pruning to the ground, and it can be applied to subjects which do not allow their wood to rot easily when it is in contact with the cold, moist soil of spring. The best example I know of, such a plant, is the Rugosa Rose, with its hybrids. If the wood of these roses is well ripened, almost any amount of it may be buried at planting time. Normally, of course, one will plant a bush of which it is desired to retain as much of the bulk as possible (since even the stem contains a certain amount of "stenght"), with whatever portion of its top that can conveniently be retained, and prune off the remainder, or most of it, after the job of planting is done. However, upon occasion I have buried enormous big rose bushes, deeper than I knew was desirable if it had not been for the need to get a great deal of growth under ground, and with only the tips of the branches emerging above the soil. Sometimes half the branches of these will die, but the remainder will grow, and the gardener seems to be ahead when he gives every branch that has any chance to live at all the opportunity to do so. When propagation is the aim, one will of course, divide such a bush when division is practicable, and in that event one will surely get some divisions with tops out of proportion to the sparse roots. When this happens, the best thing to do is to cut off a large amount of the top, leaving merely the stout stems near the base of the plant, and then cover everything completely at planting time. The root portion will send up shoots that will reach the sunlight and eventually grow into a mature plant. How much is gained by retaining the stout basal stems I do not know, but apparently nothing is lost. They rot away, naturally, but probably a good deal of plant sugar is withdrawn from their tissues first.

(Continued on Page 238)

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

TRANSPLANTING DIFFICULT SHRUBS

.....(Continued from Page 237).....

Another time for burying considerable stem tissue occurs when one takes up partly rooted layers and treats them as cuttings. Even if the amount of root that has been produced is tiny, the "cutting" that has any root at all on it is treated as a cutting (that is, set out with only a bud, or scarcely that, above ground) will usually grow.

It will scarcely be necessary to point out that the successful rooting of hardwood cuttings, which, at the time they are taken to the field have no roots at all, or only callouses, depends upon the same principle, that of preventing evaporation from the stem tissues until roots have been produced, by getting practically all their surface below the soil.

One of the values of this whole discussion will be to reveal the reason for pruning back even subjects that are ordinarily easy to transplant. Some day I should like to write an article entitled "The Trials and Tribulations of a Nurseryman", in which I would tell how the public fights the necessity of pruning their newly purchased shrubs, and how the resentment of the average buyer (of which the average nurseryman is perfectly aware) at finding his shrubs and trees pruned for him, results in an enormous proportion of the annual planting of trees and shrubs being done improperly, and how this, in turn, is reflected in the death of plants which otherwise would live. Statistics reveal that about three quarters of all nursery stock sold never lives and of the figure of seventy-five, it would be safe to estimate that at least sixty would represent the losses that occur because the nurseryman is not allowed to do the pruning that he knows to be necessary. The pity of it is that that part of the buying public which is perfectly willing to prune if told that better results will thereby be secured, also fails to prune, because the individual buyer says, "Well, if pruning had been needed the nurseryman would have done it." Some nurserymen make a compromise by pruning off about half of what they know to be desirable, and in this case the amenable portion of the public is still more likely to be misled, for they will say, "the nurseryman has pruned it, and so it must be pruned right".

It is customary to allow trees to take a much greater risk of not living than shrubs, on account of the greater difficulty of replacing a single trunk than the top of a branched shrub. However, a single trunk CAN be replaced, too, if the grower is willing to spend enough time in removing the buds that result from pruning, to one, over the course of an appropriate time. Many trees are comparatively easy subjects, and for them it is best to err on the side of leaving too much rather than too little top. However, the pruning should undoubtedly be done at the place which will do most to prevent too premature and abundant a leafing out and the least to destroy the main trunk which it is so hard to replace. The drier the area, and the drier the year, the more should be sacrificed. A good deal of trouble results from the inhabitants of dry-soil areas attempting to follow the methods that have proved reasonably successful in more humid areas. On the whole it is probable that a good deal more is lost by the too-sanguine planting out of trees than of shrubs.

Even when the gardener desires to take
(Continued on Page 240)

VIOLAS - XERANTHEMUM

Each species has a number and easy variety of variation of this species has the same number followed by a letter which represents the variation.....Hybrids have one number.

VALERIANA. (val-er-ee-AY-nuh) VALERIAN. Valerianaceae.

Perennial plants and shrubs with small white or rose flowers in cymes or spikes. Very easy to grow in the border; they are very fragrant.

—**officinalis.** Garden Heliotrope. Popular; pink, red, white fls; 4 ft; HP VAL-12X. 15¢
—**White.** VAL-12W. 15¢
—**Red.** VAL-12R. 15¢
—**rubra:** see *Centranthus rubra*.

VERBASCUM. (ver-BASK-um) MULLEIN. Scrophulariaceae.

Mostly tall hardy biennials; making good specimens in the back ground of the border; thrive in most any soil and are easy to grow.

—**paniculatum alba.** VEBS-18. 25¢
—**phoeniceum hybrids.** Purple and red fls in racemes; 4 ft; HB VEBS-19. 20¢
—**virgatum.** Yellow or white fls 1' ac; 4 ft; HP VEBS-32. 25¢

VERBENA. (ver-BEE-nuh) Verbenaceae.

Germ. 10 days.

Mostly perennials and highly prized for their profuse blooming. In the North they are grown as hardy annuals but in the far South they can be sown as perennials. In the North start seeds indoors for real early flowers; set 1 ft. apart in a sunny place.

V. TEUCRIODES: To which probably belong most of the popular garden varieties. The varieties following are the very best and all mammoth in size.

—**Daneborg.** Scarlet with showy white eye VERB-1D. 15¢
—**Etna.** Large trusses of intense geranium-red fls VERB-1E. 15¢
—**Lavender Glory.** Pretty shades of lavender with cream eye VERB-1L. 15¢
—**Luminosa.** Pink shaded to salmon VERB-1M. 15¢
—**Gigantea Mixed.** Above and many other colors VERB-1GX. 15¢
—**compacta Mixed.** Low growing, 6"; for edging or bedding VERB-1CX. 20¢

VERBENA SPECIES:

—**bipinnatifida.** Lilac-purple fls in loose clusters; showy; HP VERB-2. 20¢
—**canadensis.** (aubletia) Violet-red; June to frost; 10"; *HP VERB-5. 20¢

VERBESINA. (ver-bes-SYE-nuh) Compositae.

Am. plants and shrubs, yellow, orange or white flowers, solitary or in panicle heads. —**encelodes.** Golden yellow rays, 2" ac; TA VEBE-3. 20¢

VERNONIA. (ver-NOH-nee-uh) IRONWEED. Compositae.

Herbaceous perennials in the North and tropical trees and shrubs in the South. The flowers are showy and in purple, pink or white heads of disk flowers, in terminal clusters. Bloom late in the summer and autumn; easily grown for border or wild garden.

—**glabra.** Deep blue; 1-2 ft; good for cutting; S. Rhodesia; TP VERN-6. 25¢
—**karongensis.** Bright purple; 1-2 ft; dandy; S. Af; TP VERN-9. 25¢
—**melleri.** Sky blue, a large plant; S. Rhodesia; TP VERN-12. 25¢
—**Vernonia Blend.** All above mixed VERN-X. 20¢

VERONICA. (ver-RON-ik-uh) SPEEDWELL. Scrophulariaceae.

Annual and perennial plants popular in the rocky or border, hardy, free flowering and thriving in a sunny or light shady place; they are easy from seed.

—**spicata mixed.** Blues, reds, pink, white fls; 18"; HP VERO-70X. 15¢
—**nana alba.** Low growing strain; white flowers VERO-70NA. 20¢
—**Blue Shades.** VERO-70B. 15¢
—**Blue Sky.** Pretty sky blue variety VERO-70S. 15¢

VIBURNUM. (vy-BURN-um) SNOWBALL. Caprifoliaceae.

These are one of the most popular ornamental shrubs. They should also be grown more as bird refuges for their fruits make excellent winter feed for all kinds of wild life. The seed should be stratified in the fall and planted in the spring when they germinate readily.

—**acerifolium.** Dockmackie. White, cymes; May-June; 6 ft; HSh VIB-1. 25¢
—**alnifolium.** Hobble Bush. Am. Wayfaring T. White, May-June; 10'; HSh VIB-2. 25¢
—**americanum:** see *V. trilobum*.
—**Carlesii.** White, fragrant; dense cymes; April-May; 5 ft; HSh VIB-12. 25¢
—**cassinoides.** White Rod. White, cymes; June-July; 12 ft; HSh VIB-13. 25¢
—**dentatum.** Arrow Wood. White, cymes; May-June; 15 ft; HSh VIB-20. 25¢
—**dilatatum.** White cymes; May-June; fr scarlet; 10 ft; HSh VIB-21. 25¢
—**Laniana.** Wayfaring T. White, cymes, 4' ac; May-June; 15 ft; HSh VIB-36. 25¢
—**Lentago.** Sheep Berry. White, cymes; May-June; hardy; to 30 ft; HSh VIB-37. 25¢
—**odoratissimum.** White, fragrant; panicles; May-June; 10 ft; HSh VIB-46. 25¢
—**opulus.** Eu. Cranberry Bush. White; May-June; 12 ft; HSh VIB-47. 25¢
—**prunifolium.** Black Haw. White, cymes, 4' ac; April-May; 15 ft; HSh VIB-52. 25¢
—**Sieboldii.** Creamy white, panicles; May-June; 10 ft; Japan; HSh VIB-65. 25¢
—**Tinus.** Laurestinus. White or pinkish, grown in GH; 10 ft; HHSh VIB-68. 25¢
—**trilobum.** Cranberry Bush. White, cymes; May-June; 12 ft; HSh VIB-69. 25¢
—**Wrightii.** White, cymes; May-June; 10 ft; Japan; HSh VIB-77. 25¢
—**Viburnum Mixture.** All above species mixed VIB-X. 25¢

VIDORELLA. (vid-o-RELL-ah)

Seeds from S. Rhodesia; better classification later.

—**residifolia.** Small bright yellow globular 1 heads; for S. VIDO-1. 25¢

VINCA. (VIN-kah) PERIWINKLE. Aprocynaceae.

Erect and trailing plants. They are useful for ground cover and in vases and baskets. Thrive in moist shady places.

—**rosea.** Mixed. Sow seeds early in warm place; the GH Vinca VINC-4X. 15¢
—**Pure White.** VINC-4W. 15¢
—**Crimson.** VINC-4C. 15¢
—**White with Pink Eye.** VINC-4B. 15¢
—**Soft Pink.** VINC-4P. 15¢
—**Rose.** VINC-4R. 15¢

The use of the words Tender tree (TTr) indicates it is tender to cold or frost but when (HHTr) is used, it indicates that the tree, shrub (Sh) or plant is hardy farther North how far depending upon the plant, and may grow in Ohio or to Mich. or even to Minn.

ON PURCHASES OF LESS THAN 50¢ WE WILL ACCEPT 3¢ STAMPS

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

ZINNIA LIST

VIOLA. (vye-OL-uh) VIOLET. Violaceae.

The genus consists of many attractive herbaceous perennials and a few annuals. The Violet and Pansy are the two most popular. They all thrive in a rich soil and in partial shade. During winter they are require a mulch of leaves. The germination of Violets is different from that of Pansies; if handled the same way, good results will seldom be gotten. Try planting the Violets in the fall, in flats, leaving them outside to get the freezing weather, when they germinate good the first thing in the spring.

VIOLA CORNUTA: Horned Violets. More or less tufted Violets. They come in many varieties of which the best and most popular are listed here. They do best in partial shade, rich moist soil and where it does not dry out too much in the summer.

| | |
|--|-------------------------|
| —Arkwhight Ruby. Rich crimson with dark eye..... | VIOL-1A. 20¢ |
| —Bicolor. Light violet-blue; very pretty..... | VIOL-1B. 20¢ |
| —Blaue Schonheit. Clear deep blue; new German variety; fine..... | VIOL-1BS. 20¢ |
| —Blue Gem. Jersey Gem. Compact violet-blue..... | VIOL-1BG. 20¢ |
| —Chantreyland. Pure apricot; free flowering..... | VIOL-1C. 20¢ |
| —White Gem. Pure white; dandy..... | VIOL-1W. 20¢ |
| —Ilona. A very pretty wine-red..... | VIOL-1L. 20¢ |
| —King Henry I. Deep violet with heavenly blue center, bright eye..... | VIOL-1H. 20¢ |
| —Lord Nelson. Large violet-purple..... | VIOL-1N. 20¢ |
| —Lutea splendens. Large golden yellow..... | VIOL-1S. 20¢ |
| —Lutea. Yellow variety..... | VIOL-1PL. 20¢ |
| —Papilio. Light blue with white spots..... | VIOL-1P. 20¢ |
| —Purple Bedder. New English variety..... | VIOL-1PB. 30¢ |
| —Scotch Strain. Newest and best hybrids mixed..... | VIOL-1SX. 25¢ |
| —Thuringia. Dark blue with white eye..... | VIOL-1T. 20¢ |
| —Gem Varieties Mixed. Compact growing strain..... | VIOL-1XG. 20¢ |
| —Viola Blend. Blend of all the above varieties..... | Oz. \$5.00 VIOL-1X. 20¢ |
| —W-F Blend. Bright gay colors in selfs, colors of reds, yellow, blue and apricot combined with many shades which are blotched; Oz. \$6.00..... | VIOL-1WF. 25¢ |

VIOLA SPECIES: All hardy perennials.

| | |
|---|----------------------------|
| —adunca. Very hardy woodland Violet; violet; 4"; Alaska..... | VIOL-2. 25¢ |
| —arenaria rosea. (rupestris) Pale violet or white; to Alaska; 3"; HP..... | VIOL-9. 25¢ |
| —bellidifolia. Dwarf matted; violet or purple fls; 3"; Rockies..... | VIOL-15. 25¢ |
| —Douglasii. Orange-yellow veined purple; gritty soil; 4"; Calif..... | VIOL-34. 25¢ |
| —glabella. Big bright yellow fls; 12"; Alaska..... | VIOL-48. 25¢ |
| —Hallii. Upper petals dark violet, lower white; 4"; Ore..... | VIOL-53. 25¢ |
| —nigra, Black Imp. Quaint little Pansies; black velvet, small eye..... | VIOL-79. 25¢ |
| —pedunculata. Orange-yellow; Calif; 20"; HP..... | VIOL-96. 35¢ |
| —purpurea. Pine Violet; Calif..... | VIOL-102. 25¢ |
| —saxatilis. Dawnside Strain of Johnny-Jump-Ups. This is an exceptional strain and we receive many fine comments on it every year; best as annual..... | VIOL-114D. 25¢ |
| —sempervirens. (sarmentosa) Yellow fls; decumbent; B. C..... | VIOL-116. 25¢ |
| —Viola species Blend. Blend of above species only..... | VIOL-XS. 25¢ |
| —Viola Blend. All kinds mixed..... | 1/4 Oz. \$2.00 VIOL-X. 20¢ |

VIRGINIA STOCKS: see Malcomia.

VISCARIA: see Lychnis.

WALLFLOWER: see Cheiranthus cheiri.

WOODFORDIA. (wood-FOR-de-ah).

—fruticosa. Small red fls; Indian tr of Crape Myrtle Fam. for far S.... WOOF-1(M). 35¢

XANTHISMA. (zanth-IS-mah) Compositae.

Annuals and perennials native of Texas; solitary heads of yellow flowers for the border. They make good cut flowers.

—texanum. Star of Texas. Heads 2" ac; summer; 4 ft; TA..... ZANT-1. 20¢

XERANTHEMUM. (zeer-ANTH-em-um) IMMORTELLE. Compositae.

Easily grown annual everlasting flower with solitary heads of disk flowers. They are good as cut flowers and very popular for drying. Sow seeds early in the spring.

| | |
|--|---------------|
| —annuum, Mixed. 3ft; double flowers..... | XERN-IDX. 15¢ |
| —Purple. Double flowers..... | XERN-IDP. 15¢ |
| —Rose. Double flowers..... | XERN-IDR. 15¢ |
| —White. Double pure white..... | XERN-IDW. 15¢ |

PRICE: Oz. 55¢; 1/4 Oz. \$2.00; 1 lb. \$5.00, prepaid.

YUCCA. (YUKK-uh) Adam's Needle, Spanish Bayonet, Joshua Tree. Liliaceae.

Suitable for bold effect in the border or for specimen plants on the lawn. Some are hardy, others need greenhouse care in the North. All easily grown from seeds.

| | |
|--|--------------|
| —filamentosa. Reclassified recently to Y. Smalliana, which see..... | YUCC-14. 25¢ |
| —glauca. Greenish white fls; fls to 6 ft; lvs to 3 ft; hardy in North..... | YUCC-15. 25¢ |
| —gloriosa. Fls greenish white to reddish; lvs to 2 1/2 ft; fls to 8 ft; HHP..... | YUCC-20. 25¢ |
| —mohavensis. Mojave Y. 10 ft; fls purple-white; HHP..... | YUCC-25. 20¢ |
| —Smalliana. Adam's Needle. White; fls to 12 ft; hardy in North..... | YUCC-X. 20¢ |
| —Yucca Blend. Above species mixed..... | |

ZINNIA. (ZINN-ee-uh) (crassima) Compositae.

A genus of some 10 species of which Z. elegans is our popular garden Zinnia. These are tender annuals and they may be started early indoors where they can be transplanted to flats and set out as soon as frost danger is passed. A little pinching back will produce more bushy plants; set out 1 1/2-2 feet apart for the large type. They are especially good in the border, in bedding and for striking effect in mass plantings, and if solid colors are used they will be much more effective.

DAHLIA-FLOWERED TYPE: The plants are 2 1/2-3 feet tall with large Dahlia-like blooms; especially good for bedding.

| | |
|---|--------------|
| —Canary Bird. Rich canary yellow..... | ZIN-1C. 15¢ |
| —Crimson Monarch. Large showy deep crimson..... | ZIN-1S. 15¢ |
| —Dream. Most unusual rosy lavender..... | ZIN-1D. 15¢ |
| —Exquisite. Light rose with a deep rose center..... | ZIN-1E. 15¢ |
| —Illumination. Deep rose self; extra fine..... | ZIN-1N. 15¢ |
| —Gold Dawn. Rich golden yellow..... | ZIN-1GD. 15¢ |
| —Golden State. A beautiful golden yellow..... | ZIN-1GS. 15¢ |
| —Luminosa. A large luminous bright pink..... | ZIN-1L. 15¢ |
| —Meteor. A rich red; the darkest of the reds..... | ZIN-1M. 15¢ |
| —Oriole. A very popular orange; choice..... | ZIN-1K. 15¢ |
| —Polar Bear. Large creamy white..... | ZIN-1W. 15¢ |

ZINNIAS: Continued on Page 240.

LEPTOSPERMUM SCORPARIUM

Some years ago, looking for a suitable plant with pink or rose blossoms to set against the blue of the opposite side of the path in the rock garden, I came across one that looked helpful. It was displayed among rock plants and then seemed to be a prostrate plant six inches high.

The following spring it had doubled its height and gave evidence of being an upright plant after all. Then flowers appeared on the wee things, flowers that looked like plum blossoms that later turned rose with brown or black centers. The foliage was red-brown, heath-like, and as the plant grew, blossoms showed at every node or joint of the stem. In the autumn the flowers were followed by black fruits about the size of small blueberries. They promised seeds at some time, but adhered tenaciously to the branches. The next winter, although by no means a mild one, this generous plant went on blooming through the whole season, along one branch.

After studying the label and looking up the variety, I found it to be *Leptospermum scorparium* variety *Nichollsii*, known as the red 'Manuke' this is the variant of *scorparium* that won a prize many years ago as the most beautiful plant of the season. This in an English exhibition where the competition is always keen.

The *Leptospermums* run from small to great. *L. scorparium* begins to bloom when only six inches high and the aromatic flowers, which last from spring to autumn as in the mother plant, white with red centers. Another of this species, the *L. ericoides*, which attains the size of a tree has quantities of white flowers. The aromatic wood is used for posts and piles. *Leptospermum* came originally from New Zealand, Australia and the Malayas.

In shape the *L. Nichollsii* is not unlike white broom. It promised to grow profusely but when it was four years old and four feet high, the cold winter of 1921 destroyed the lovely shrub. Since then I have never been able to find another seedling nor any seed. Often I think of it with pleasure mixed with regret. The flowers were of a peculiar rose shade as if a plum tree had borrowed its colors from a single rose of magenta hue.

RARE AFRICAN FLOWERS

(Continued from Page 236)

| |
|----------------------------|
| OSTEOSPERMUM Ecklonis. |
| PELAGONIUM spp. mixed. |
| PLECTRANTUS ciliatus. |
| —myrianthus. |
| —tomentosus. |
| PRISMATOCARPUS diffusus. |
| PYCNOSTACHYS urticaefolia. |
| ROCHEA coccinea. |
| ROELLA ciliata. |
| SALVIA aurea. |
| SCABIOSA africana. |
| SELAGO Galpinii. |
| —serrata. |
| —spuria. |
| —Thunbergii. |
| SENECIO bipinnatus. |
| —glastifolius. |
| SOLENOSTEMON zambesiacus. |
| STREPTOCARPUS mixed. |
| SUTERA coerulea. |
| —grandiflora. |
| —microphylla. |
| —stenophylla. |
| SUTHERLANDIA frutescens. |
| URSINIA sericea. |
| —chrysanthemoides. |
| VERNONIA glabra. |
| WALAFRIDA nitida. |

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

GENTIANAS

The Gentian that should be in every garden, no matter how small, is *G. septemfida*. It is above all the "no trouble" Gentian. It is the lazy man's Gentian or one could say the busy man's.

If you can grow only one Gentian than select this species but there are others that one should not overlook. The two European species *G. acaulis* and *G. verna*, with *G. cochimira* and *G. Loderi* and *G. sino-ornata* are very satisfactory species to grow.

Lime is the bogy of the Gentian grower, and any trace is usually fatal but a good application of leafmould will usually correct the condition.

G. ornata is also an excellent species because it is such a compact plant and thus suitable for growing in pans in your alpine house.

TRANSPLANTING DIFFICULT SHRUBS

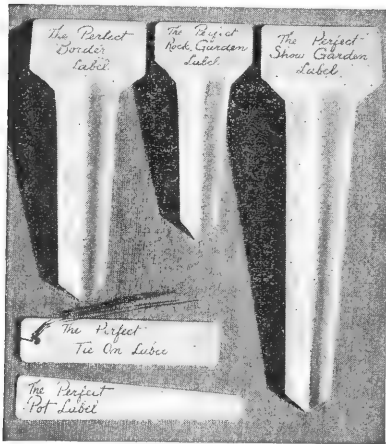
(Continued from Page 238)

a risk, it is desirable that he should be fully aware of what it is necessary for him to do to insure life, and the enormous difference that is made by choosing to do proper planting out. It often happens that the rarity or value of a plant makes the insurance of its survival of much greater importance than quick attainment of maturity, and in such cases, it is desirable for the planter to realize how he can insure survival and how far from ideal our common planting practices are.

PERFECT LABEL

MARK with ORDINARY LEAD PENCIL

Mark with your ordinary lead pencil; it is permanent and will not fade or become unreadable. If you wish to make any changes an ordinary eraser will remove the writing.



PRICES

5 inch; width of marking space 2 inches:
12 labels; \$1.25; 25 for \$2.40; 100 \$9.25

7 inch; width of marking space 2.1/8 inches.
12 labels: \$1.50; 25, \$2.90; 100, \$11.25.

PIONEER SEED COMPANY
DIMONDALE, MICHIGAN

The complete Iris List will be in the next booklet, which will be combined with these 16 pages in most of the mailings. We have tried to include all the important information in each description.

ZINNIAS CONTINUED

- Royal Purple. Best in rich purple..... ZIN-1RP. 15¢
- Will Rogers. Lovely brilliant scarlet-red..... ZIN-1WR. 15¢
- Dahlia-Flowered Blend. A rich blend of NAMED varieties..... ZIN-1X. 15¢

Ounce, 70¢; 1/4 lb. \$2.25; 1 lb. \$6.00; prepaid.

- GIANTS OF CALIFORNIA TYPE:** The plants are 3-4 feet tall with large flat flowers on long stems and especially recommended for cut flowers; they are fine in beds too.
- Brilliance. A nice bright pink..... ZIN-2B. 15¢
 - Cherry Queen. Brilliant cherry red; showy..... ZIN-2CQ. 15¢
 - Crimson Queen. A deep crimson color..... ZIN-2CQ. 15¢
 - Enchantress. Pretty light rose with a deeper center..... ZIN-2E. 15¢
 - Golden Queen. A rich golden yellow..... ZIN-2GQ. 15¢
 - Lavender Queen. A bright dark red..... ZIN-2L. 15¢
 - Lavender Queen. Deep rosy lavender..... ZIN-2L. 15¢
 - Orange King. The most popular orange for cut flowers; they are fine in beds, too..... ZIN-2K. 15¢
 - Orange Queen. Deep golden orange..... ZIN-2R. 15¢
 - Purity. Best white in any Zinnia..... ZIN-2W. 15¢
 - Rose Queen. Striking deep rose..... ZIN-2Z. 15¢
 - Mixed California Giants. Choice blend of colors..... ZIN-2X. 15¢
 - Pastel Colors Mixed. All delicate color blend..... ZIN-2PX. 15¢
 - Scarlet Queen. Glowing deep scarlet..... ZIN-2S. 15¢

Ounce, 70¢; 1/4 lb. \$2.25; 1 lb. \$6.00; prepaid.

FANTASY TYPE: Petals are long, curved and pointed, resembling those of the night flowering Cactus; 4 inches across and 2 inches deep. This strain includes Star Dust and many other varieties; plants 2 1/2-3 feet tall.

- Gold Dust. Pretty golden orange variety..... ZIN-3G. 15¢
- Meody. Pretty orchid lavender..... ZIN-3M. 15¢
- Orange Lady. Bright deep orange..... ZIN-3L. 15¢
- Pink Frills. Soft flesh pink..... ZIN-3F. 15¢
- Rosalie. An intense rose color..... ZIN-3R. 15¢
- Star Dust. Beautiful canary yellow..... ZIN-3SD. 15¢
- White Light. Best pure white..... ZIN-3WL. 15¢
- Fantasy Blend. Carefully made blend of above varieties..... ZIN-3X. 15¢

HARMONY TYPE, SCABIOUS FLOWERED: Plants are 2 1/2-3 feet tall, bearing numerous medium sized flowers resembling annual Scabiosa or Harmony Marigolds. This improved strain has long stems and is excellent for cut flowers.

- Finest Mixed. Bright colors and shade..... Oz. 75¢; 1/4 lb. \$2.25..... ZIN-4X. 15¢

GAILLARDIA-FLOWERED TYPE: Navajo Blanket Flowered. Flowers resemble Picta Double Gaillardia, in both form and coloring; brightly colored and perfect little fls.

- Finest Mixed. An All American Winner..... ZIN-5X. 15¢

PUMILA TYPE: Dwarf double or Cut-and-Come-Again. In best pastel shades. The flowers are 2 1/2-3 inches across, round in shape and good length stems for cutting. Sow in rich sandy loam; blooms in 50 days.

- Canary Yellow. Clear color..... ZIN-6CY. 15¢
- Crimson..... ZIN-6C. 15¢
- Golden Orange..... ZIN-6O. 15¢
- Pinkie. Pretty rose pink..... ZIN-6R. 15¢
- Salmon Rose..... ZIN-6P. 15¢
- Scarlet..... ZIN-6S. 15¢
- Snowball. Pure white..... ZIN-6S. 15¢
- Spun Gold. Butter yellow; very pretty..... ZIN-6W. 15¢
- Sunshine Tints. A rich blend in pastel colors..... ZIN-6SG. 15¢
- Pumila Blend..... Oz. 70¢; 1/2 lb. \$1.70; 1 lb. \$5.50; prepaid..... ZIN-6ST. 15¢
- ZIN-6X. 15¢

PEPPERMINT STICK: A new medium sized Pumila-type flowered Zinnia. Flower petals are striped in various color combinations such as red and white; red and yellow; purple and white; carmine and white; orange and yellow; about 70% striped flowers.

- Finest Mixed..... ZIN-7X. 15¢

SUPER GIANTS: An extremely large flowered type.

- Golden Queen. A rich golden yellow..... ZIN-2GQ. 15¢
- Floradale Scarlet. Uniform scarlet, cactus type blooms; slightly smaller than Dahlia-flowered; 2-2 1/2 feet tall..... ZIN-8F. 25¢
- Lutler Burbank. In interesting pastel colors..... ZIN-8LB. 15¢
- Super Crown O'Gold, Pastel Tints. Giant flowers..... ZIN-8G. 20¢
- Super Fantasy, David Burpee. Mixed colors..... ZIN-8B. 15¢
- Howard's Giant Crested Mixed. Mammoth fls; crested; late..... ZIN-8H. 20¢
- Cactus Flowered Giants Mixed. Large flowers with quilled petals..... ZIN-8C. 20¢
- Finest Mixed. All super giants mixed..... ZIN-8X. 15¢

EARLY WONDER TYPE: Earliest of all Zinnias, for short season locations and autumn planting. Plants 18-24 inches tall, basal branching, many 3-4 inch flowers on long wiry stems having no laterals and almost no leaves.

- Fandango. Salmon cerise-pink..... ZIN-9F. 25¢
- Fiesta. The darkest red..... ZIN-9E. 25¢
- Gypsy. Shades of deep orange..... ZIN-9G. 25¢
- Padre. Bright scarlet..... ZIN-9P. 25¢
- Rose Pink..... ZIN-9RP. 20¢
- Blend of Above..... ZIN-9X. 20¢

LILLIPUT or POM POM TYPE: The Lilliputs are among the most popular Zinnias for cut flower use. Flowers are small, compact, symmetrical and on strong plants, 18-2 inches tall.

- Canary Gem. Clear canary yellow..... ZIN-10CG. 15¢
- Crimson Gem. Best crimson..... ZIN-10CR. 15¢
- Dainty Gem. A dainty bicolor rose..... ZIN-10DG. 15¢
- Golden Gem. Pretty golden orange..... ZIN-10GG. 15¢
- PINK GEM. Pure deep pink..... ZIN-10KG. 15¢
- Lilac Gem. Best clear lilac color..... ZIN-10LK. 15¢
- Miss Willmott. Large soft rich pink..... ZIN-2M. 15¢
- Purple Gem. Best in purple..... ZIN-10PG. 15¢
- Salmon Gem. A beautiful salmon rose..... ZIN-10SM. 15¢
- Scarlet Gem. Brilliant scarlet..... ZIN-10SG. 15¢
- Pastel Blend. Only delicate pastel colors..... ZIN-10PX. 15¢
- Lilliput Blend. From NAMED varieties, not hybrids..... ZIN-10X. 15¢

PRICES: Oz. 70¢; 1/4 lb. \$1.90; 1 lb. \$6.00, prepaid.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

IRIS PATTERNS AND TERMS

From the A. I. S. Bulletin, I quote, "How many of you have tried to stand before a group and try to explain the meaning of the terms amoena, neglecta, variegata plicata, etc." These terms are familiar to the judges and informed growers, but there are great numbers of ordinary Iris growers to whom they are comparable to a foreign language.

Several such technical terms have been eliminated from the current list as obsolete or misapplied, the most familiar having been "squalens". But the list of terms still retained in our classifications schedules will include such names as: amoena, variegata, neglecta, bitone, bicolor, plicata, blend and selfs.

Obviously a self is a flower of one overall color and tone the standards and falls being identical, with no suggestion of a pattern.

Amoena, Variegata, Neglecta

But the next category is a little more intricate, and therein lies most of the misunderstanding. This group includes amoena, variegata, and neglecta. The identification key to this class is the light color standards, with darker falls, and with a border on the falls the same color as the standards.

The variety Wabash is the typical example of the amoenas, with pure white standards, ultramarine-blue falls, and an edging of white around the falls.

The next example in this series is represented by such varieties as City of Lincoln, Gypsy and Mary Vernon. Here the same pattern is replaced with yellow color in place of the white of amoena; the standards being some hue of yellow, the addition of yellow producing a reddish or maroon falls and with a bright yellow border on the falls.

This type known as variegata is the source of all these three patterns, and originated from the species *I. variegata*; this is further demonstrated by the fact that the progenies of crossing variegata forms with amoena varieties will show a series of all types, amoenas, variegatas and neglectas. It is understood that normal segregation among the progeny eliminates the yellow from the variegata type leaving white to produce the amoena pattern:

There are variations upon this theme of variegata which produces such things as Mexico, Louvois and Shah Jehan until we achieve an entire elimination of yellow color in combination with an increase of anthocyanin pigment, which is typical in such varieties as Amigo and Mme. Maurice Lassailly. These latter are known as neglectas, though they are often listed in catalogs as bicolors or bitones. Here the distinguishing mark is the presence of a border on the falls.

Bicolors

A bicolor is a flower with two colors, the standards showing a different color than the falls, and these are very scarce among our varieties. On the other hand bitones are myriad and may come in any color. These include theoretically all flowers that have different tones of the same color in standard and falls, but ordinarily no distinction is considered unless the tones are quite radically different.

Plicatas are an interesting group of plants and vary widely within this classification. Originally plicata meant a flower with a white base, with an edging or border of delicate stitching around both standards and

By Walter Welch, Indiana.

falls, and the historical example was Madame Chereau. This stitching was normally of blue or purple color. But recently there has been developed numerous variations of this stitching which are known under the names of stippling, fancies, striatas, etc., and they come in various colors with a base color of yellow, with markings of tan, red, pink, brown and various tones of clear blue. I must say that our modern plicatas have become quite messy, as they have lost much of their clean cut edging, to be re-

commerce, and the variety King Midas was a star among the older blends. Today the originations of Kleinorge are among our finest specimens, and such varieties as Juliet, Bryce Canyon, Argus Pheasant, Chamois are considered among our finest specimens.

But a classification of color and pattern types is not a static schedule, new forms necessitate a continuous progressive alteration. Right now we are contending with such things as reverse bicolors as exemplified by Pinnacle and Summit, but for the present the above classes are standard for Irises.



A Welcome Cordial and Sincere awaits all Friends who enter here
Home of the R. O. Powelsons, of St. Joseph, Mo., as shown on their letter head.

placed with stipples so dense and unrelated to an edging that their distinction is greatly damaged. The most popular varieties today are Blue Shimmer, Fire Dance, Con-fetti and Tiffanja.

Plicata Pattern

The source of the plicata pattern is known as the species *I. pallida*, it is a recessive character, and offers a fine field for improvement.

Blends cover a wide range of variation and occasionally overlap into the other sections. A blend is a combination of anthocyanin pigment and yellow plastic color in the same flower; the two colors intermingling or superimposed upon each other in such a manner as to give a blended effect. We used to call these types "squalens" from their rather smoky and dull effect. But they have been cleared up considerably in modern breeding so that they have become quite brilliant. At one time the variety Prairie Sunset was considered the finest variety in

CROSS-POLLENATION NECESSARY

Usually plants, in nature, require to be cross-pollinated, with bees or other insects being the main means. Plants having any other methods for the transference of the pollen never have showy flowers.

Many flowers are entirely sterile with pollen from the same flower. Crossing is always of advantage.

SUBSCRIPTION price now \$2.00 per year.

Koelreuteria paniculata

Here is one of the very best small sized deciduous trees in cultivation and ideal for the small yard or garden.

Its yellow flowers are in immense panicles held well above the leaves and produced during June and July.

The seed should be sown in the fall when they will germinate readily in the spring. The seeds are Canna-like and thus, if sown in the spring, they should be nicked and soaked in water 24-48 hours. Those wanting seed, should place their order early in the summer so as to be reasonably sure of delivery.

The supply of tree seeds varies so much of late years, due to uncertainty of help, and early orders will help in making deliveries.

VITALITY OF SEED QUICKLY LOST

Seed of certain families, like the Carrot family, lose their vitality very rapidly. This is also the case with Elms, Maples, Willows and some of the Pines and Spruces. These should be planted as soon as possible after ripening.

RE-BLOOMING IRIS COLLECTION

We will send you 18 separate varieties, all labeled, for ONLY \$5.75, our selection. This will make an attractive group for fall flowers.

IRIS

By Walter Welch, Indiana

It often happens in hybridization that we will obtain just a few seed that are quite important or that we have some type of seed that is difficult to germinate. To risk these seed to the usual chances with regular methods will often result in much loss and it is advisable to attempt some technique whereby this chance can be eliminated through controlled conditions. The average grower does not always have the facilities for handling this, as does the professional horticulturist, and must experiment with whatever is available.

Recently I was faced with this problem in connection with some tiny seed of *I. arenaria*, which I hope to submit to the colchicine treatment for the purpose of doubling the chromosomes and thereby altering its composition from a diploid to a tetraploid form.

As is commonly known, *arenaria* seed are quite difficult to germinate; unless planted immediately after ripening, they will often remain dormant through the regular spring season and not sprout until following years.

I had selfed plants of *I. arenaria* and obtained 44 seeds; these were held over in the house until the following late winter in February and had become very hard little pellets, which added to the difficulties of germination. In addition to this it was necessary that I be able to observe the progress of germination and remove the sprouted seed as soon as possible. The following procedure has resulted in an approximate 70% germination, in the minimum of time and risk, and that without testing the seed prior to the treatment, to eliminate the bad ones.

The seeds were first placed in a teacup, boiling water was poured over them to fill the cup half full of water. They were allowed to remain in this hot water for five minutes, then the water poured off, and the seed placed in a refrigerator in the freezing compartment. They remained in a freezing condition for 24 hours, after which they were thawed out and again placed in a freezing condition for another 24 hours, then allowed to thaw out again.

I had procured one of those round plastic cheese boxes in which cheese is sold in small triangular cubes. The box is transparent about 4 1/2 inches in diameter and 3/4 inch deep, with plastic cover. This makes an excellent little greenhouse when kept in the house at room temperature. I next cut three sheets of soft blotting paper to fit and placed in the bottom of the box. After pouring in water to wet down the blotters fully but not leaving enough water to immerse the seed, I placed the 44 seeds on top of the blotters and put on the lid. This was on February 15th and the first sprouts appeared on March 12th, just 29 days later.

On March 12th. there were 6 seedlings, 6 on March 15th, 7 on March 18th, 3 on March 20th, 4 on the 24th and 4 on the 31st, making a total of 30 seedlings out of a possible 44. On April 4th, the time of this writing there are yet 14 seed ungerminated, and it is possible that more may come from this group.

Although this is no record of spectacular performance in germination, it is an except-

DWARF IRIS FOR THE ROCKERY

The Dwarf Bearded Iris has become very popular and next to the Tall Bearded, are the best Iris sellers. They are ideal for edging along walks and in the rockery.

Most of them grow about 8"-10" tall and they should be planted about 12" apart. They flower earlier than the other types of Iris and in the central states, may begin as early as March and by May are through, when the Intermediates and tall types begin to bloom. Their flowers are of the very best colors.

We offer only the best varieties.

ARAMIS. 5", E 35¢
A dainty light yellow of quality.

ARENARIA. 35¢
The foliage is grass-like in this variety; the color a fine yellow.

AZUREA. 3", EE 35¢
A pretty variety in pale blue with beard; second earliest to bloom.

BLACK MIDGET. 9", M 50¢
Almost a black color; shows up well against a white background.

BLUE BEARD. 8", E 35¢
An unusual color, olive white with purple streaks on the falls.

BLUE JADE. 8" 50¢
Extra large flowers in dwarfs, dark blue-purple that glistens.

BRIDESMAID. 50¢
Pale blue and yellow.

DIXMUDE. 10", E 35¢
A pretty rich violet-purple flower; strong grower.

DR. MANN. 6", M* 40¢
A very long lasting prolific bloomer; smoky to petunia-violet color.

EBURNA. 10", E 35¢
Lovely whitish yellow.

ELF. 9" 50¢
A wide petaled red-purple that makes a bold effect in the rockery.

FAIRY. 50¢
One of the best "50"; light yellow.

FLORIDA. 6", E 35¢
A soft primrose-yellow; very attractive.

GRAMINEA. 12", E 35¢
Strong growing rich red toned fragrant variety.

HARBOR LIGHTS. 50¢
Light yellow and of the best quality.

LADDIE BOY. 15", E 35¢
A rich velvety deep blue.

LITTLE JEWELL. E 50¢

A nice brown-tan blend of colors and a creamy gold beard.

LOBELIA. 8", E 35¢
A very good dark blue self.

MAROCAIN. 50¢
The standards are a clear violet; the falls a pansy-violet; nice.

MIST O'PINK. 8", E* \$1.00
A showy red-pink with flaring falls; this is one of the best of the dwarfs.

ORANGE QUEEN. 6", E* 35¢
A beautiful deep rich yellow; substance very good; fragrant.

PUMILA ATROVIOLOACEA. 5", EE* 35¢
The Easter Iris; very dwarf and strong grower; violet color.

ROSE MIST. 10", E 35¢
A very lovely mauve-pink; popular.

SCHNEEKUPPE. 35¢
White with a cream throat; one of the best "50"; 6".

SILVER ELF. 10", E 35¢
This has a pretty frilled flower in a silky silver white flushed royal purple on the falls.

DWARF COLLECTION

20 varieties of the above; our selection, all labeled, for ONLY \$6.35; post-paid. 10 varieties for \$3.25.

SNOW MAIDEN. 16", E 40¢
A pretty white variety with a faint blue cast and olive-green and ochre veins at the half.

SOCRATES. 6", E 35¢
An excellent massing variety; uniform garnet tones.

SPRING SKIES. 5", EE 35¢
A more vigorous Azurea.

STEWART. 6", EE* 35¢
A small and dainty yellow self.

TAMPA. 10", EE 35¢
Grass-like foliage; dainty; red toned with cream; HM.

TINY TONY. 4", E* 40¢
A very small variety; red toned.

TONY. 3", E 40¢
Richest wine color; orange beard.

VILLEREAL. 8", E 40¢
A very nice variegata in old rose.

YELLOW FRILLS. 10", E* 40¢
A very choice deep yellow dusted gold; frilled flowers.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

ionally good record when compared with previous attempts of germinating these tough little seeds. The normal results of my previous experiences has been approximately 10 to 15 percent germination with *arenaria* seed, as compared with an average of better than 60% for other Iris seed under normal conditions.

I cannot report on the livability of these seedlings after gemination, as they were immersed in 0.1 and 0.2 percent solution of colchicine immediately after removal from the blotters, and this solution is fatal to many of the seedlings. They were removed from the solutions at intervals of 36-48-72-120 hours exposure immersed. It is evident that some have survived as several have shown definite signs of growth, and on some there is an indication of the effects of the chemical action in enlarged sections or portions of the rootlets.

Upon removal from the chemical the seedlings were transplanted into one inch clay pots, in a mixture of equal parts of sandy loam, peat and compost. These pots were set into a glass fish bowl, square or about 7 x 12 inches by 6 inches high. The pots were bedded in the same soil mix up to the rim of the pot and this wet down to conserve moisture at all times. The moisture can be controlled by covering or leaving open as the condition demands.

As many kinds of hybrid seed, especially of widely separated species and forms, such as those of *arenaria*, *mellita*, *pumila*, *rubromarginata*, *Regelia*, *Onco* and diploid forms and intermediates in the Tall Bearded Irises, are sometimes difficult to germinate, and due to the complex genetical composition, often produce few seed, it is advisable to use the utmost precautions in attempts to encourage the maximum of germination.

EARLY INTERMEDIATE IRIS

To lengthen your IRIS season the Intermediate type should be included in your Iris collection. As they usually grow from 18"-28" high they can be used in places where the taller varieties would not be suitable.

Their blooming season starts in May here in Michigan and continues into the early Tall Bearded season.

ABELARD. 26" E 35¢
A prolific variety; color bright mahogany; HM.

ARCHEVEQUE. 24"; M* 35¢
Very free blooming wine-red to black, a grape color with a very strong grape odor; noticeable in bouquets.

CHALLENGER. 28"; E 35¢
This is the richest black-purple; HM.

INTERMEDIATE COLLECTION

15 different varieties of the above list,
our selection, all labeled for ONLY
\$5.00; 10 different varieties for \$3.25.

CRYSORO. 26"; E 46¢
This variety sometimes blooms again in the fall; rich yellow; HM.

DALILA. 24"; M* 35¢
Flesh and cherry; edged white.

DOXA. 18"; E 50¢
Lovely olive-buff with a greenish cast; nice.

ELIZABETH HUNTINGTON. 18"; M 50¢
Crinkled petals in medium blue color; different and pretty.

GAY HUSSAR. 24"; M 50¢
A very pretty variety; variegata in chrome and oxblood-red.

SIBERIAN IRIS VARIETIES

These are shipped separately from the other types of Iris and will reach you late in September. See that the rhizomes are protected from heaving out of the ground by winniter frosts. Otherwise there not special cultural directions.

BOB WHITE. 50¢
A nice waxy snow white variety.

CAESAR'S BROTHER. 50¢
A new blue; very nice.

GAY HEART. 50¢
A nice dark blue self.

HELEN ASTER. 90¢
Well rounded rosy red with halo near the throat of the falls; AM; HM; 30".

WHITE DOE. 50¢
A beautiful large white flower

GLEE. 18"; E 35¢
A soft yellow with frilled petals; rather dwarf growing; AM.

IRIS KING. 24"; M 35¢
Old gold and deep brown-maroon, edged brown on the standards; AM.

KING KARL. 28"; M* 35¢
Cream dotted with rose; very nice; AM.

LA NEIGE. 28"; M* 35¢
A pretty waxy cream-white.

MA MIE. 28"; M* 35¢
A pretty white frilled blue; AM.

NEHEWKA. 28"; M 40¢
A beautiful variety; darkest blue-purple plicata on white back ground.

RED ORCHID. 28"; E 35¢
Vigorous and prolific; brilliant ruby-brown with gold beard; HM.

SPARK. 28"; E 35¢
A striking fiery brick red.

TAN TOY. 18"; ML* 35¢
A beautiful tan brown variety.

TITMOUSE. 28"; M 40¢
An unusual Table Iris with beautifully formed flowers in amber-yellow, speckled and edged violet.

VALANCIA. 24"; ML 35¢
Ruffled flowers, orange-buff color.

WARBLER. 25"; M* 50¢
A pretty pure yellow; nice Table Iris.

WIDGET. 24"; EM 60¢
Table Iris; white plicata, speckled lavender.

ZUA. 18"; E 50¢
A very unusual variety; the most crinkled and ruffled Iris variety; color pearl gray.

PERRY'S BLUE. 50¢
One of the best blues.

PSEUDACORUS. 50¢
A tall, late, bright yellow; to lengthen the season.

SKYLARK. 50¢
An exquisite light blue.

SOUND MONEY. 50¢
A good clear yellow; one of the best "50".

SIBERIAN COLLECTION

Six varieties (our selection) for ONL
'.00 postpaid. This is a special offer, a
ts labeled.

ZOYSIA JAPONICA

Of late years this seed has been advised as a lawn grass seed and we give here what information we have of it; we wish readers who happen to be growing any of it now will write us of their experience and their recommendations.

Zoysia (so-Y-she-ah) japonica, commonly known as Japanese Lawn Grass, was first introduced into the United States about 36 years ago from Korea, where the climate approximates that of New York State.

Until recently, it was very difficult to obtain seed but a little seed is now becoming available. We understand the U. S. Dept. of Agricultural has been testing it and considers it especially valuable for lawn, play grounds and athletic fields.

Description

Zoysia japonica is low growing, sod forming perennial which if not mowed, will grow to a height of about 9 inches. It has a broad, somewhat coarse leaf similar to Red Top, but does not grow as tall.

A slow grower in its early stages, Zoysia japonica will form a desirable, tough and cushiony sod within two years. There are approximately 1,300,000 seeds to the pound.

Adaptation

Zoysia japonica is the only species which is hardy and will grow in the South as well as in the North. It should never be confused with Zoysia matrella, which is of value only to the southern end of Florida where it is sold as sod under the name of Flawn.

It is generally believed that Zoysia japonica will be of great value for the following reasons:

- (1) Its ability to withstand heat, long periods of drought and extremely cold climates.
- (2) Its ability to crowd out crabgrass as it is most dominant during the crabgrass season.
- (3) Its ability to provide a green cover during the summer months when other grasses, such as Kentucky Blue Grass, turn brown and ragged. It will also hold its color into the late fall longer than other grasses.
- (4) Its ability to withstand heavy traffic and its extraordinary healing qualities.
- (5) The fact that it is disease free and weed free. So far none of the known pests have attacked it. It is immune to Cinch Bugs.
- (6) Unlike its cousin Flawn, Zoysia japonica forms a loosely knit sod and in its early stages blends and lives in harmony with other grasses, especially Blue Grass.

Zoysia Culture

It is recommended using one pound of seed for every 450 square feet of lawn area. Under general field conditions, planting 12 pounds per acre should be sufficient.

Zoysia japonica does not require extensive fertilizing because of its ability to thrive under all conditions. It is best to fertilize Zoysia during the fall as that is the time most weeds are inactive. Do not top-dress.

Zoysia japonica has one weakness: it is slow to germinate. It has, however, so many advantages in its favor, that it is well worth the extra preparation recommended below. Once this grass is established, you will have a truly remarkable perennial lawn.

It is suggested that in order to reduce the normal germination period from six months to 30 days, you follow these simple suggestions

(Continued on Page 244)

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

SEEDS THAT REMAIN ON TREES

There are many seeds of trees and shrubs that do not fall until growth starts in the spring. Ligustrum Willsoni is an example, and now in December if you try to remove the seed it is almost necessary to cut them off. Usually these seeds will not germinate until the second year. By remain on the tree they undoubtedly receive more alternate freezing and thawing than when removed in the fall.

Where these seeds have been allowed to remain on the bush over winter, they germinate quickly in the spring when placed in sand.

FRINGED GENTIAN SEED

Fringed Gentian seed will not germinate if allowed to dry. They should be collected immediately after the first November frost and sown at once on a low (not very wet) meadow. For indoor planting use a large pot with a one inch layer each of course and fine gravel and sand, and two or three inches of loam. Keep the bottom of the pot in a dish with an inch or two of water. Small rosettes only are formed the first year, which should be transplanted and flower the second year. It also apparently requires a symbiotic fungus.

SUBSCRIPTION price now \$2.00 per year.

PERENNIALS TO PLANT NOW

ACANTHUS (ah-KAN-thus)

Bear's Breech Perennials, thistle-like small shrubs; about 3 ft tall, fls white, rose or lilac on 18" spikes. They need heavy winter protection in the North; best in rich well drained soil. Seed sown in April will flower in Aug. THP.

—*mollis v. latifolia*. Broad glossy lvs; courious pale purple fls; HB.....ACK-1. 20¢

ACHILLEA (ak-i-LEE-ah)

Milfoil or Yarrow. Hardy herbaceous perennials easily grown in any fair soil in full sun. Flowers in clusters of small heads, white, yellow and pink making good cut fls. Seed planted indoors in March will flower same year. They make good border plants.

—*Bakeri*. Large rich yellow; 3 ft; extra good; HP.....ACH-3. 20¢

—*chryscoma*. Dense woolly foliage; bright yellow fls; 9"; HP.....ACH-8. 20¢

—*Clavennae*. Finest RG species; silvery lvs; white daisy fls; 6"; HP.....ACH-9. 20¢

—*filipendulina*. Has showy round heads; yellow; robust; 5 ft; HP.....ACH-10. 20¢

—*Cloth of Gold*. A pretty golden flowered variety.....ACH-10C. 20¢

—*alba*. White flowered variety.....ACH-10W. 15¢

—*milleforium*. Round heads of white fls; 2 ft; HP.....ACH-20. 15¢

—*Pharmica v. The Pearl*. Double pure white; excellent for cutting; HP.....ACH-24. 20¢

—*Taygetea*. A new variety; lemon colored heads; 2-3 ft; HP.....ACH-33. 20¢

—*Achillea Blend*. All species and varieties.....ACH-X. 15¢

ACIPHYLLA *Colensoi*. N. Zealand border pl; 5 ft; white fls; TP.....ACIP-1. 25¢

ACONITUM (AK-oh-nyt-um)

Monkshood. Herbaceous perennials, seeds germinate slowly, sow out doors in May or June in shade or they can be started indoors earlier but plants do not like transplanting; thin to 18" apart; bone meal is good as a fertilizer.

—*Wilsonii*. Handsome spikes, large porcelain blue fls, late, 3 ft, HP.....ACD-9W. 25¢

—*Barker's Variety*. Pretty novelty in amethyst-blue, 6 ft, HP.....ACD-9B. 25¢

—*palmatum*. Blue fls 2½ in. across; Himalayan Mts; HP.....ACD-16. 25¢

—*napellus v. praecox*. Blue fls; 4 ft; HP.....ACD-16P(C). 30¢

—*lycoctonum*. Wolfsbane. Hardy, yellow fls, 4 ft, moist soils, HP.....ACD-14. 25¢

ACTINOMERIS (ak-ti-NOM-er-is)

Tall Sunflower-like native perennials for the hardy border or wild garden and resembling *Helianthus* and *Verbesina*. Grow like Sunflowers.

—*alternifolia*. Fls. yellow; 1-2" ac; rays; 8 ft; HP.....ACTI-1. 20¢

ADENOPHORA (ad-e-NOF-o-rah)

Lady Bells. Erect perennials with fleshy roots, flowers in shades of violet. They are good in border, being grown like Campanulas; disturb as little as possible.

—*confusa*. Erect, fls deep blue, 1" long; 3 ft, HP.....ADEN-2. 20¢

—*Potantinii*. Bell-shaped fls, in panicles, violet; 3 ft; HP.....ADEN-20. 20¢

ADONIS (ah-DOH-nis)

Hardy herbaceous annuals and perennials; some make good RG plant and grow well in both sun or shade; fls solitary terminal, crimson or scarlet with a dark colored base. Sow seed of all kinds either in the spring or fall; they are easily grown.

—*aestivalls*. Summer Adonis. Scarlet flowers in June-July, 1½ ft; HP.....ADON-1. 15¢

AETHIONEMA (eeth-ee-oh-NEE-muh) STONE CRESS. Cruciferae.

Annuals, biennials and perennials allied to Eberis and hardy up to Michigan. They are dwarf plants with flowers in terminal racemes and grown in the rockery or border, flowering in May and June; a light sandy soil in full sun is ideal.

—*grandiflorum*. Pink or rose fls; 1½ ft; HP.....AETH-9(C). 30¢

—*schistosum*. Pink or rose fls; Asia Minor; HHP.....AETH-21(C). 30¢

AGRIMONIA (ag-rim-MOH-nec-ah) Agrimony

Erect perennial plants with small yellow fls in racemes followed by burr fruits; shade.

—*odorata*. Yellow; 3 feet; Europe; HP.....AGRI-2. 20¢

AGROSTEMMA: see Lychinis.

ALLIUM (AL-i-um)

Flowering Onion. Nearly all those listed here are hardy perennials. They are attractive plants in the border, some in the rock garden. Sow seeds as for perennials, usually in early spring. Rich, sandy soils best; full sun.

—*albopilosum*. Lilac in umbels 8 inches across; 3 ft; dandy, HP.....ALUM-2. 25¢

—*amophillum*. Golden yellow flowers; Europe; HP.....ALUM-4. 30¢

—*cernuum*. Nodding buds, erect fls; lavender to white, May; 1 ft; HP.....ALUM-21. 20¢

—*fistulosum*. Welch or Spanish Onion. Fls white; good for eating; HP.....ALUM-33. 20¢

—*falcifolium*. An extra good RG species; 4"; deep rose; HP.....ALUM-23. 25¢

—*Gayeri*. Very pretty 14 inch plant; rose-pink fls; HP.....ALUM-37. 25¢

—*giganteum*. Bright lilac; Cent. Asia; 4ft; HP.....ALUM-38(C). 30¢

—*karataviense*. Whitish fls with purple mid-rib; 1 ft; HP.....ALUM-44. 25¢

—*montanum*: see *A. senescens*.

—*neopolitanum*. Large 3 inch white flowers; 1 ft; S EU; HP.....ALUM-58. 25¢

—*nigrum*. (A. speciosum) Violet fls; 2 ft; HP.....ALUM-60. 30¢

—*oreophilum*. Purple in many flowered umbels; Caucasus; HP.....ALUM-67. 40¢

—*peninsulare*. Rose-purple fls in loose umbels; 1 ft; HP.....ALUM-72. 25¢

—*praecox*. White fls petals, bright purple mid-vein; 1 ft; HP.....ALUM-74. 15¢

—*pychelium*......ALUM-75. 40¢

—*pyrenaicum*. White flowers with a green mid-rib; 3 ft; HP.....ALUM-78. 20¢

—*roseum*. Rose fls in loose umbels; 18"; HP.....ALUM-81. 20¢

—*rubrum*. Flowers replaced by reddish bulbels; 1 ft; Rocky Mts; HP.....ALUM-83. 30¢

—*Schoenopaeum v. sibiricum*. CHIVES. Rich purple fls; 1 ft; HP.....ALUM-87S. 20¢

—*senescens*. (A. montanum).....Lilac in many fl'd umbels; 2 ft Eu; HP.....ALUM-90. 25¢

—*sphaerocephalum*. Tall pretty globular deep red heads; HP.....ALUM-93(W). 30¢

—*stipitatum*......ALUM-96. 30¢

—*languicum*. Bluish lilac with darker midrib, in dense umbels; HP.....ALUM-99. 30¢

—*tibeticum*. Deep blue flowers; 6"; Tibet; HP.....ALUM-102. 35¢

—*triqueurum*. Large white fls in loose umbels; 18"; HP.....ALUM-104. 25¢

—*tuberosum*. Leaves not hollow; July-Sept; 18"; HP.....ALUM-105. 20¢

—*unifolium*. Pink Allium. Calif; 15"; bright roset; HHP.....ALUM-106. 20¢

—*Allium Blend*. A valuable collection of Allium species.....ALUM-X. 20¢

Each species has a number and each variety of variation of this species has the same number followed by a letter which represents the variation.....Hybrids have one number.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

ZOYSIA JAPONICA

(Continued from Page 243)

Mix seed with at least ten times the amount of dry sand or Vermiculite. Place in a flat, shallow pan so that the mixture is not over one inch deep. Soak but do not flood. Keep moist continually, wet down thoroughly at least once each day and stir once or twice daily.

Keep out in the hot sun. Leave it outdoors night and day for two weeks. By this time the seed will begin to crack and is ready for planting.

Sow seed and sand mixture, rake in lightly and roll. Keep moist same as you would with any other lawn grass seed.

Uses for *Zoysia japonica*

Zoysia japonica is an extremely hardy perennial. It is persistent and will thrive in any kind of soil. While it will make as beautiful a lawn for the home as the more common grasses, its greatest value is for airports, athletic fields and play-grounds, cemeteries and golf courses, where a coarse and yet smooth turf is needed to withstand wear and tear of traffic.

The load-bearing capacity of *Zoysia* is unparalleled by other grasses. Areas planted with this grass and driven over by a truck at a time when the soil was wet, barely showed the track on well-established sod.

The fact that this grass grows very slowly and only to a height of 9 inches, also makes it of outstanding value for all large areas. It requires mowing only a few times all season.

Zoysia japonica in its early stages is quite tolerant of other grasses. Later on, however, it will gradually spread and choke out all other grasses as well as weeds, so that eventually you will have a pure *Zoysia* turf.

Note: The suggestion on hastening the germination, does not mention the subject of stratification nor the seed coat of the seed. It is the Editor's opinion that if the seeding is done in the late fall that this might be the natural method and thus should be tried; it seems logical that this would be the easiest way.

Seed retails for \$6.00 per pound which might eliminate it for some places but we hope that it will eventually be lower in price. We would appreciate hearing from any reader growing *Zoysia*.

Bert Andrews of West Alton, Mo. asks about miniature Cat Tails, where he can get them; possibly some reader can advise.

Also solid yellow *Petunia*, which we list. He wants mustard seed for making ground mustard. We suggest that this should be purchased from the spice people as it is doubtful if it could be grown as cheaply.

PERENNIAL BROWALLIA

In reference to the inquiry from Canada for the perennial *Browallia*, the correct name is *Streptosolen Jamesonii*, grown out doors in the South and in the greenhouse in the North.

Thanks for listing seeds wanted. These seeds are also wanted: *Cypella*, all species; *Hibiscus* (shrub-tree) hybrids, *Hibiscus schizopetalus*; *Lapageria albiflora* and superba; *Musa Ensete*. Clinton A. Beachy, Indiana:

ROSE BARON de BONSTETTEN

Clinton Beachy of Indiana write that this variety can be gotten from the Joseph Kern Nursery, Box 33, Mentor, Ohio. This answers a request from one of our readers for a source for this variety.

PERENNIALS TO PLANT NOW

ALSTROEMERIA (al-stre-MEE-ri-ah)

So. American greenhouse plants grown from tuberous roots that are treated as bulbs. Rich soil and a sunny position needed. Seed can be planted in pots, August or later, which bloom the following summer.

- aurantiaca.** Orange spotted red, free, very hardy, 3 ft; HP **ALST-1.** 20¢
- augustifolia.** Pink, orange or flame, 3 ft; HP **ALST-1A.** 20¢
- Ligtu.** Pink, red and yellow fls; 2 ft; HP **ALST-5.** 20¢
- hybrids.** Peruvian Lily. Pink, red or yellow; 2-3 ft; HHP **ALST-5H.** 20¢
- pulchra.** This has longer and narrower leaves **ALST-5P.** 20¢
- Pelegrina.** Lily of the Incas.. Pink spotted purple; 1 ft; HP **ALST-6.** 25¢
- alba.** Pure white form; very nice; 1 ft; HP **ALST-6W.** 25¢
- Blend.** All kinds mixed **ALST-X.** 20¢

ALYSSUM (ah-LIS-um)

Magwort. Annuals and perennials, trailing to 1 ft in height, and all showy; the perennials bloom very early in the spring; the annuals during early summer

A. maritimum: Under this heading are listed all the common annual Sweet Alyssum. Botanically, they belong under *Lobularia maritima*. They are all hardy annuals, doing best when started early. They are used in edging or bedding, in pots, baskets or boxes as well as in the rock garden. All low growing and very free flowering.

- arduini.** **ALYS-6.** 25¢
- idaeum.** Silvery green foliage; fls whitish; Crete; HHP **ALY-12.** 25¢
- Markgraffii.** Bright yellow, dense panicles; 1 ft; Albania; HP **ALYS-17.** 30¢
- Moleleandorianum.** Yellow fls; fol silvery; Bosnia; 5"; HP **ALYS-19.** 30¢
- murale.** **ALYS-21.** 30¢
- orientale.** Collected in Albania **ALYS-22.** 30¢
- spinosum.** White or pinkish; woody, 1 ft; S EU; HP **ALYS-31.** 20¢
- lutescens.** Yellow form of *Lobularia maritima* **ALYS-16.** 25¢
- montana.** Trailing, deep yellow; 3"; RG; HP **ALYS-20.** 20¢
- saxatile v. Gold Dust.** Spring flowering; 1"; golden yellow; HP **ALYS-26G.** 15¢
- compasum.** Compact masses, yellow, April-May, 1 ft; HP **ALYS-26C.** 20¢
- Silver Queen.** Primrose fls; fine for RG; 1 ft; HP **ALYS-26S.** 20¢
- sulphureum.** Pretty sulphur-ellow; 1 ft, HP **ALYS-26U.** 20¢
- Rock Garden Specise.** Contains a collection for RG; extra choice; HP **ALYS-34X.** 20¢

AMSONIA (am-SOH-ne-ah)

Perennials 1-3 ft tall, having bluish flowers followed by rather attractive milkweed-like pods; border, easily grown.

- Tabernaemontana.** Star fls of soft blue; May-June; HHP **AMON-2.** 15¢

ANACYCLUS (an-ass-SYE-klus)

A race of daisies from Med. regions related to *Pyrethrum*; a few species are very desirable dwarf perennials with finely cut foliage and large white or yellow daisy-like flowers with backs of the rays striped with brilliant red. Sunny, stoney positions best.

- Anacyclu Blend.** All kinds mixed; HP **ANAC-X.** 15¢

ANAPHALIS (an-NAF-al-iss)

White woolly perennials for the rock garden or border; small white flowers and can be used as everlasting.

- margaritacea.** Pearl Everlasting. Fine for dry fls; white; 3 ft; HP **ANAP-1.** 20¢
- nubigena.** Himalayan alpine for RG dwarf wooly; white fls; HP **ANAP-4.** 25¢

ANCHUSA (an-KEU-suh)

Excellent perennials for the summer border in a sunny place; hardy, easily grown, flowering July-August or even later. Comes mainly in blue colors. Best in good soil with plenty of old manure. Be careful not to damage tap root when transplanting.

- azurea, Dropmore Variety.** Lovely bright blue fls; 4 ft; HP **ANCH-2D.** 15¢
- Opal.** Same as above but a lighter pretty blue; HP **ANCH-2P.** 15¢
- capensis, Blue Bird.** Vivid indigo-blue, compact, 1½ ft, HA **ANCH-4B.** 15¢
- Anchusa Blend.** All kinds and varieties; HP **ANCH-X.** 15¢

ANDROSACE (an-DROS-ah-see)

Rock Jasmine. True alpine annuals and perennials for the rock garden or low border. Many require special handling in the alpine or rock garden. Leaves usually tufted or in rosettes and often woolly. Flowers small in red, pink or lavender, usually borne in rather flattened rounded clusters. Requires a dry gritty, well drained soil but not too suffer from drought. Seed may remain in the soil over a year.

- carnea v. brigantiaca.** Has narrow leaves and white flowers **ANDR-3B.** 30¢
- cylindrica.** Tight cushions; 1" tall; choice alpine; HP **ANDR-6.** 50¢
- Hookeri.** Pretty little plant, brilliant pink, 2", HP **ANDR-10.** 25¢
- sarmentosa chumbyl.** Easy RG plant; mats of small rose fls; 3"; HP **ANDR-18C.** 25¢
- sempervivoides.** Fine RG plant; umbels of pink fls; 3"; HP **ANDR-19.** 25¢
- septentrionalis subumbellata.** Sprays of small white fls; 5"; HB **ANDR-20S.** 25¢
- yunnanensis.** **ANDR-23.** 30¢
- Androsace Blend.** All kinds mixed **ANDR-X.** 20¢

ANTENNARIA (an-te-NAY-ri-ah)

Everlasting; Pussy's Toes. Perennials used in the wild or rock garden, also much used as dried flowers in winter bouquets. Best in dry soil, easily grown. Flowers in heads and the leaves are white-woolly clustered at the base.

- aprica.** Dense low mats, white or pink heads, 5"; HP **ANTA-2.** 25¢
- dioica.** Pale rose fls 1 ft; HP **ANTA-8(C).** 30¢
- rosea.** Foliage distinctly white and woolly; fls rose; 1½ ft; HP **ANTA-17.** 25¢

ANTHEMIS (AN-the-mis)

AN-the-mis) Golden Marguerite, Chamomile. Very free flowering perennials with daisy-like flowers, blooms June-Sept. Does well on dry sandy soils and in full sun. Sow seeds in late April or early May, outdoors, or they can be started earlier indoors. Thin plants in garden to 10" apart. Profuse bloomers.

- arabica.** **ANTH-3.** 25¢
- Kelwayi.** Pure golden yellow; July-frost; 2½ ft; HP **ANTH-6.** 10¢
- montana.** Charming sp. pure white fls 1 ft; HP **ANTH-9.** 15¢
- simplex.** Large flowers **ANTH-10S.** 15¢
- Sancti-Johannis.** Deep orange fls, 2" heads; 3 ft; HP **ANTH-13.** 15¢
- tinctoria.** Golden yellow ray fls; fine for cutting; 2½ ft; HP **ANTH-14.** 10¢
- Perry's Variety.** Bright lemon yellow; fine; 2 ft; HP **ANTH-14P.** 15¢
- Anthemis Blend.** All kinds **ANTH-X.** 15¢

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

Akebia Quinata

A very handsome hardy deciduous climber suitable to ramble over low supports or for trellis work.

Many plants do not produce fruits, due to pistillate flowers coming into bloom before the staminate ones, thus preventing proper fertilization. It would be interesting to hear from any reader who has found a method of overcoming this fault, for in nature, the plant multiplies by seed and thus the flowers must be pollinated naturally.

In the nursery the plant can be propagated by cuttings of the current year's wood, taking medium sized branches, each cutting to have two or more leaves; these can be placed in a cool bed to root and then carry over winter in a cold frame.



Our Little Dutch Girl — Like Her Dahlias? Daughter of Harvey Koop, Mich.

SPECIFIC ENDINGS

The common ending of species when named after a person, is in the latin *genitive* case and ends in *i* or *ii* or when named after a woman, *ae*. Whether one *i* or two are used is a matter of euphony. Thus *Carex Davisii*, *Carex Fraseri* and *Carex Jonesae*.

Most species are in the adjective form and are descriptive of the generic name which is always a noun in the singular number.

In latin there are three genders, masculine, feminine and neuter and thus the endings of the specific names are formed to correspond to the generic gender.

Thus, the common adjective, white, or in latin, *alba*, becomes *albus*, when masculine, *alba*, feminine and *album* in the neuter. And from these endings the gender of the generic name is indicated. Of course there are some exceptions.

START PERENNIALS NOW

Most perennial flowering plants are best started during the summer months, when they will flower next year. In the small garden, the time is not as important for a few plants can be cared for regardless of the weather.

THE BEST TALL BEARDED IRIS

AIRY DREAM. 33"; L 35¢
A clear soft pink self.

AL-LU-WE. 40"; M 40¢
A large bronze and red variegata, not commonly offered but is top-notch.

AMALIA. 36"; M. 35¢
Large dark red, a nice variety.

AMBASSADEUR. 42"; ML* 35¢
An AM variety in hyssop and carmine; attractive.

AMBROSIA. 36"; M. 35¢
A dainty variety in a fine satiny pink; pretty for near spots.

AMIGO. 34"; EM 50¢
An enchanting pansy color; striking contrast with clear light lavender standards foiled by the deep purple-velvet edged falls; HM; AM.

AMITOLA. 38"; L 40¢
A russet pink with attractive gold blend.

ANGELUS. 36"; L 50¢
A very distinct and beautiful color in a creamy lavender-pink. The petals are broad, large; substance heavy; HM; AM.

ARAB CHIEF. 90¢
This variety is a most attractive rich burnt orange, almost a henna tone. It is one of the brighter and most attractive and a favorite; HM.

ARCTIC. 50¢
Profuse blooming; beautiful huge flowers of white and gold.

AT DAWNING. 50¢
Beautiful pinkish white standards with a gold base; falls a soft rose, gold-veined throat and deep orange beard.

AVONDALE. 33"; M 45¢
A pretty strawberry-red; HM.

AZURE SKIES. 34"; ML 75¢
A lovely ruffled pale lavender self. The standards are domed and flaring, falls almost horizontal, accented by a showy white beard; HM; AM.

BALDWIN. 40"; M 35¢
A large attractive lavender-blue color; HM; showy.

BALLET GIRL. 36"; EM 50¢
A very delicate shade of pink. It is a distinctive variety.

BERKELEY GOLD. 38" 75¢
A deep clear yellow self of fine form. The color is intense and pure; HM; AM.

BERMUDA SANDS. 36"; M 90¢
A heavily ruffled flower in a lovely light coffee-tan color, a glint of gold shining through to brighten the whole. The Dykes Winner for 1949.

BLACK HAWK. 28"; VE 50¢
Striking two-toned bloom; the standards a brilliant mulberry, falls intense violet-black, like black velvet.

BLUE HILL. 40"; M 35¢
Ruffled flowers in a showy cornflower-blue.

BLUE RHYTHM. 38"; ML \$3.00
Soft medium blue with a silvery tone, velvety in texture and a Dykes Winner in 1950.

BLUE SHIMMER. 38"; M 90¢
The clearest tone blue, peppered on crisp enameled ivory-white. It is a charming plicata; HM; AM.

BLUE TRIUMPH. 42"; M 50¢
The finest light blue, received both a HM and AM.

BRANDYWINE. 36"; M 50¢
Large silvery blue flowers.

BRUNHILDE. 36"; EM 50¢
A very uniform dark rich violet-blue

MICHIGAN GROWN IRIS

Michigan grown Iris cannot be excelled. The soil and climate are ideal for all root growing plants.

Some sections in the West produce a large showy white rhizomes, which comes from irrigation; these rhizomes are soft and we have found that at least a years start is lost in planting them.

Michigan rhizomes are not so large but they are solid and hard. Michigan winters tend, also, to produce a tough rhizome.

Where carriage charges are not paid by the shipper, the extra weight amounts to considerable, too.

SHIPPING TIME

All the bearded Iris can be shipped beginning about July 20th. The Siberian and some of the species are shipped later.

self with a blue cast beard; HM; AM.

BUCKSKIN. 50¢
This is by far the best tan colored Iris. It is a tall grower and bears many large blooms with large closed standards and wide flaring falls.

BUFFAWN. 34"; E 50¢
A beautiful soft pinkish self with the most brilliant red-orange beard. It is an unusual color and very desirable.

BURGUNDY ROSE. 35" \$2.50
The color blend of this strong growing variety is very striking. Blooms are ruffled, large, a dark amethyst color and free blooming.

BUTTERCUP LANE. 32" 50¢
A very heavily ruffled clean bright yellow on strong stems. An ideal variety.

CALCUTTA. 42"; M* 35¢
An unusual color; coconut-brown; attractive.

CALIFORNIA PEACH. 38"; EM 50¢
A beautiful pink-peach and apricot color with much more gold and yellow in it than China Maid; HM.

CAPT. COURAGEOUS. 44"; M 35¢
Pretty rose-buff color not often found listed.

CARFAX. 48"; M 35¢
A huge auricula purple flower.

CHEERIO. 40¢
One of the best early red bicolors, very popular. It is of good form and size.

CHINA MAID. 36"; E 50¢
A very beautiful blend in shades of pink, golden copper and lilac, smoothly blended together; large size and fine form; HM; AM.

CHRISTAELL. 36"; M 50¢
Dependable mid-season glowing red with a smooth finish and brilliant yellow beard; flowers are large and beautiful 50¢

CITY OF LINCOLN. 42"; ML 50¢
Rich golden yellow standards and bright velvety red falls. We like this variety very much and groups of it in the garden makes it stand out above all others; HM; AM.

CLARA NOYES. 30"; M 40¢
A fascinating color blend in tones of yellow, orange and apricot.

CLARIBEL. 40"; M 40¢
Large flowered, vigorous white plicata with blue stitching.

COPPER LUSTRE. 36"; M 50¢
It definitely glows in its bright copper, gold and tan blendings, a very beautiful Iris. It was the 1938 Dykes Winner.

COPPERSMITH. 42"; M 35¢
A pretty vinaceous flushed magenta with a coppery sheen; HM.

CORONET. 42"; L* 50¢
A very pretty golden tan blend; HM; this is a real pretty variety for its color.

CORRIDA. 42"; L 35¢
Pretty sky-blue with darker veins; AM.

CRYSTAL BEAUTY. 45"; ML* 35¢
A clean white variety that should be in all collections, especially as it is not costly.

CYRUS THE GREAT. 38"; E 40¢
A regel dark blue; HM.

DEPUTE NOMBOLT. 52"; M 50¢
Huge claret-crimson variety; Dykes Winner; AM; a dandy.

DESTINY. 38"; ML 40¢
Velvety, blackish plum-purple and a rich, heavy flower of good form and stem. One of the best of the dark Irises.

DIRECTEUR PINELLE. 48"; M 50¢
A dark bronze-red; AM; really a fine variety.

DOGROSE. 43"; M 40¢
A superb pink winning the Silver Medal; not often found listed.

DOLLY MADISON. 36"; E 40¢
Mauvette flushed pale colonial buff; heavy substance; HM.

DORE. 40"; ML* 35¢
A pretty daffodil color.

DYMIA. 38"; M* 35¢
A deep plum color, almost black; HM.

EASTER MORN. 42"; M* 50¢
A heavy textured white receiving both an AM and HM.

EL TOVAR. 36"; M 40¢
Honey-yellow standards and falls almost black; HM; AM; good.

ETHELWYNN DUBUAR. 38"; ML* 30¢
Orchid pink.

EXCLUSIVE. 38"; L 40¢
A beautiful light blue overlaid with a silvery mist producing a powder blue; HM; AM.

FAIR ELAINE. 35"; M 50¢
An entrancing bicolor, pale primrose to cream-white standards and blazing rich gold falls. It is very attractive; HM; AM.

ELSA SASS. 36"; ML 50¢
A most distinctive color, closed standards of deep lemon, semi-flaring falls of deep lemon, washed cream at center. It is a strong grower; HM; AM.

FLORA ZENOR. 40"; EM 50¢
An exotic color blend of pale cameo-pink shading into hafts of a deeper rose, all set off with its vivid red beard; AM.

GLORIOLE. 40"; M 50¢
A huge frosty pale blue of excellent substance; HM; AM.

GOLDEN HIND. 30"; M; (DM) 40¢
A very showy rich, clear, buttercup yellow and white; its richness is possessed by few Iris. The Dykes Winner for 1939.

G. P. BAKER. 60"; M 50¢
A masterpece yellow, 12 blooms to the stalk; AM; Dykes Winner.

GOLDEN FLEECE. 36"; ML 75¢
This is wholly unlike any other Iris. A lemon-colored flower with creamy falls edged gold and beautifully ruffled, huge in size; HM; AM.

GOLDEN MAJESTY. 40" ML 50¢
Striking lovely rich golden yellow with a broad form and well branched stems. Its color is very even and rich; HM; AM.

GOLDEN SPIKE. 36"; M 50¢
A splendid clear waxy deep yellow with a showy thick orange-yellow beard; AM.

OVER 100 BEST BEARDED IRIS

GOLDEN TREASURE. 38"; M .50¢

Solid deep cream with a rich golden orange all about the central portion of the flower. It stands out in any planting; very floriferous.

GRAND CANYON. 38"; M 75¢

An outstanding blend of canyon colors, plum, copper and gold. It is slightly ruffled and must be seen to be fully admired; AM.

GREAT LAKES. 48"; M 75¢

A pretty pure clear blue Iris. Petal texture is flaring and crisp, the beard almost white. It was the 1942 Dykes Winner and still not equalled.

CUDRUM. DM .40¢

An enormous creamy white with petals resembling a magnolia. Brilliant orange beard and a slight gold-dust sprinkling over the entire bloom; heavy texture. The Dykes Winner for 1931.

HAPPY DAYS. 39"; EM 35¢

Giant primuline yellow, veined morocco red; HM; AM.

HELEN MCGREGOR. 38"; M \$3.00

A very beautiful clear pale blue, flaring and causily ruffled. For light blue it is supreme; HM.

JASMANIA. 36"; ML* 40¢

A pretty banana-yellow; HM; AM.

JEAN CAYEUX. 36" 40¢

A showy blend of coffee and Havana brown. It must be seen to realize its beauty; a Dykes Winner.

JEAN LAFITTE. 38"; M 50¢

Glowing coppery rose, a pretty variety.

JEB STUART. 36"; M 35¢

A beautiful red-brown; HM; AM.

KANSAS INGLESIDE. 34"; E 40¢

The first of the reds to bloom. It is a warm-toned brown-red self and very pretty. It also blooms again in the fall where the season is long.

KING JUBA. 40"; M 35¢

Chamois variegata; this is a very pretty variety and much admired by visitors.

LADY MOHR. \$1.00

A cross between the bearded Iris and an Oncocyclus hybrid producing a most unusual Iris. The standards are clear oyster-shell white, the falls frosted chartreuse-yellow with prominent veining; slightly fluted; very pretty.

LEGEND. 36"; M 40¢

A huge crimson-claret; showy.

LORD OF JUNE. 40"; M 40¢

Gigantic blue, the falls marked with old gold; AM; SM.

LOS ANGELES. 46" 40¢

Gigantic white with standards faintly edged blue and with blue styles. Very showy.

LOUVOIS. 36"; M 60¢

Two shades of chocolate, deep, rich and velvety. Its a real valuable variety; AM.

MAJENICA. 36"; M 60¢

A salmon tinted pink with wide petals. It is a clear bright smoothly colored self.

MATTERHORN. 38"; EM 50¢

A gigantic flowered, pure white with rounded down-falling falls with no veining visible; very light yellow beard; HM; AM.

MELLANIE. 40"; M 50¢

A lovely large flowered light pink. Truly a fine orchid-pink.

MING YELLOW. 38"; M .50¢

One of the largest, stateliest yellows, evenly toned. Its form and bloom are fine; HM; AM.

PLANTING DIRECTIONS FOR IRIS

There is nothing difficult in setting out Iris. The rhizome should be half out of the soil, but in planting some dirt can be drawn towards the rhizome so as to hold surface moisture. This high soil can be removed by the next spring, when much of it will naturally level off by the action of the rains and in hoeing.

When Iris are set out, say after September 15th, it is best to draw 2-3 inches of soil over the rhizome, just before freezing. This will keep most of the plants from heaving out during the winter; the first thing in the spring, go over the Iris and see that all rhizomes are pushed back into the soil and also draw some of the excess soil over the rhizomes.

All Iris plants should be well drained so that water never stands around them.

Other than the above little else is of special importance.

MISSOURI. 40" 50¢

Strong, medium blue, with flaring petals. It should be in every Iris collection.

MOROCCO ROSE. 40"; M 50¢

A really beautiful warm rose-pink self with a soft yellow glow at the center, beard bright gold.

MRS. WILLARD JACQUES. 29"; M 40¢

A pleasing watermelon pink, waved and frilled.

MULBERRY ROSE. 40"; M 90¢

This is an outstanding variety. Color a deep radiant mulberry-rose self, having a brown shade; beard bronze; HM; AM.

NENE. 38" 40¢

A dandy variety, standards soft lilac and falls rich old rose. The flowers are very large and showy.

OLA ALA. 38"; M \$1.00

A rich golden yellow, almost orange; the falls are flaring and slightly frilled. A Dykes Winner for 1948 and it has been very popular since.

OMAHA. 30"; M 40¢

Soft rose to brown-cinnamon; huge flowers.

PLUIE D'OR. 36"; ML 40¢

Dykes Winner; empire yellow; AM; good.

PINK CAMEO. 36"; EM \$3.00

A new pink of outstanding value. The petals are slightly flaring; the pointed buds are much deeper in color, adding to its beauty.

PRAIRIE SUNSET. ML 75¢

Really a glowing sunset blend of colors, pink, apricot and golden copper, brilliant.

RAMESES. 40"; ML 40¢

The Dykes Winner for 1932; olive-buff to tourmaline pink; HM; DM.

ROSE BOWL. 40" 50¢

Deep rose self with both haft and beard in gold.

ROSY WINGS. 38"; EM 40¢

The Dykes Winner for 1939. A soft rose-red with a trace of copped shining through and brightened with a bright orange beard.

SABLE. 37"; EM 75¢

Almost a black Iris, with a blue beard. It has a wonderfully lustrous sheen.

SAN FRANCISCO. 42"; M 50¢

A Dykes Winner; a dandy lavender plecta.

SHAH JEHAN. 38"; ML 40¢

Rich oriental colors; much admired by visitors.

SHARKSKIN. 38"; M .75¢

A pure white with a silken finish with a leather-like substance. It is one of the finer whites and should be in every collection. HM; AM.

SHINING WATERS. 48"; EM 40¢

A Sweet Pea satiny blue; HM; AM;

SHIRVAN. 33"; M 40¢

Rightly described as Shirvan rug color; pretty; HM; AM.

SNOW FLURRY. 38"; M 90¢

Standards are a pure icy white, nicely ruffled, the falls large, broad and pure white. It is especially valued for its many flowers produced at one time.

SOLID MAHOGANY. 38"; M \$1.75

A smooth deep flowered mahogany-red. In the deep red class this is one of the very best; HM; AM.

SPANISH PEAKS. 38"; ML \$4.00

This a complete white; white flower, white throat, half, the style arms and even the beard. It is nicely formed and of heavy substance; excellent; HM; AM.

SPUN GOLD. 38"; ML* 90¢

The 1944 Dykes Winner. It is very popular. The color is a rich velvety golden yellow and is an all around good variety.

STARDOM. 34"; M 50¢

A beautiful salmon, shading to buff with a showy bright orange beard. Extremely vigorous.

THE BLACK DOUGLAS. 36" 40¢

A very rich and velvety blackish violet-purple. It is very popular.

THE RED DOUGLAS. 36" 75¢

A very popular dark red Iris. Very uniform and of great size; the Dykes Winner for 1941. One of the finest Iris.

IRIS TRIALS

Each year we run trials of Iris crosses made by our readers. If these prove of value, we are pleased to further the sale of them as well as to give them publicity.

There is now charge for this and the stock belongs strictly to the reader.

Send a good sized rhizome, please.

THEODALINDA. 37" 40¢

The largest plicata of the Los Angeles type; a satiny white with buttonhole stitching of bright but delicate blue.

TIFFANY. 36"; M 90¢

Creamy colonial buff with more white cast falls, both speckled and sprinkled light golden brown.

TIFFANY. 36"; M 50¢

Yellow and maroon plicata with light yellow background. The heavy plicata borders are deep red-brown or maroon.

VIOLET SYMPHONY. 40"; M 75¢

A gleaming lilac-mauve self; huge in size and broad petals; it is a high ranking variety; HM; AM.

WABASH. 36"; M* 50¢

Here is a showy variety especially in groups. The standards are clean white and the falls bright purple. More white should be planted in the Iris garden and Wabash is especially good for this purpose. The Dykes Winner for 1940.

WHITE CITY. 44"; EM 75¢

Immense silken flowers of blue-white with a showy heart of plumbago-blue. It is a very showy variety.

WINTER CARNIVAL. 38"; M* 90¢

A very large crisp white with a touch of gold at the throat. It is a very beautiful variety and one of the best whites.

RE-BLOOMING IRIS FOR FALL

If you want Iris blooms in October and November, then try these beautiful varieties. They are all nice.

They give the regular crop of flowers in the spring, just ahead of the Tall Bearded Iris, and if given a rest following and then water freely, they usually produce a second crop of flowers in the fall.

| | |
|---|--------|
| AUTUMN ELF. 18"; M* | 35¢ |
| A rich deep toned red bicolor. | |
| AUTUMN FLAME. 34"; E* | 60¢ |
| A lovely deep red bicolor. | |
| AUTUMN FROST. 36"; EM | 35¢ |
| Alabaster white variety; HM. | |
| AUTUMN HAZE. 30"; E | 35¢ |
| This has a strong violet odor; light lavender to hyssop-violet; nice. | |
| AUTUMN KING. 30"; M | 35¢ |
| Free blooming blue bicolor. | |
| AUTUMN QUEEN. 18"; E | 50¢ |
| One of the best white re-bloomers, flowering every month in some sections with two flowers to the stem. | |
| AUTUMN SURPRISE. 24"; M | 35¢ |
| An excellent rebloomer in a medium blue color. | |
| DORCAS HUTCHESON. 22"; M* | 35¢ |
| A fine deep violet self. | |
| GOLDEN CATERACT. 20"; EM* | 35¢ |
| A nice golden yellow with a vivid orange beard. | |
| EQUINOX. 26"; ML | 35¢ |
| A reddish purple bicolor. | |
| FALL BEAUTY. 48"; E* | 60¢ |
| Standards a nice bronze-brown with the falls a violet-blue. | |
| FROST QUEEN. 20"; M | 35¢ |
| A free blooming frosty white. | |
| GLADSONG. 24"; M | 35¢ |
| An unusual variety; yellow ground plicata. | |
| GOLDEN HARVEST. 18"; E | 35¢ |
| Olive and citron-yellow. | |
| JANE KREY. 30"; E | 35¢ |
| A rich violet self with a red cast and a white beard. | |
| KANSAS INGLESIDE. 32"; LM* | 35¢ |
| Rich toned self on the copper side; HM. | |
| KING JUNIOR. 30"; MM | 35¢ |
| Same as Autumn King but in a deeper red. | |
| LIEUT. de CHAVAGNAC. 15"; E | 35¢ |
| Violet, bronze and cream; a dependable bloomer. | |
| MARTIE EVEREST. 36"; EE* | 35¢ |
| A very choice variety in a uniform blue. | |
| MRS. WALTER LAMB. 30" | \$1.50 |
| Mauve pigeon-throat standards and darker gray falls; very choice. | |
| OCTOBER BLAZE. 34"; EE* | 50¢ |
| Deep dancing red; extra early; fragrant. | |
| OCTOBER OPERA. 18"; E* | 35¢ |
| A pretty burgundy-red; fragrant. | |
| OLIVE WHITE. 18"; E | 35¢ |
| A beautiful deep cream color. | |
| SANGREAL. 28"; EM* | 35¢ |
| Slightly frilled yellow; nice. | |
| SEPTEMBER SKIES. 18"; M* | 35¢ |
| A dandy purple-red; fragrant. | |
| SOUTHLAND. 24"; M | 35¢ |
| Showy golden yellow; HM; AM. | |
| ULTRA. 25"; E | 35¢ |
| Ultramarine-blue; pretty; HM. | |
| WHITE AUTUMN KING. 28"; EE | 35¢ |
| A snow-white re-bloomer; pretty. | |

PERENNIALS TO PLANT NOW

ANEMONE (ah-NEM-oh-nee)

Attractive perennials blooming in the spring, summer or autumn; fls come white, rose, red and purplish. They thrive in a rich sandy loam, many in shade; they make beautiful plants in the border and some in the BG. The florist species are *A. coronaria*, *fulgens* and *hortensis*. These come in single and double fls and are grown mostly as fall or winter flowers, and grown much as are freesias; these are not real hardy.

CORONARIA: Poppy-flowered Anemone. This is the popular florist Anemone.

| | |
|---|----------------|
| —Cain. Single giant flowered strain, French | ANEM-10C. 20¢ |
| —Creagh Castle Strain. Famous English strain | ANEM-10CC. 25¢ |
| —Monarch. A new strain in best colors | ANEM-10M. 20¢ |
| —Single Giants. Large flowered strain in man colors | ANEM-10N. 20¢ |
| —Hollandia. Very pretty red with dark centers | ANEM-10H. 20¢ |
| —St. Brigid. True Irish strain, double brilliant fls, not hardy N of D.C. | ANEM-10S. 25¢ |
| —Mr. Fokker. Beautiful single bright blue | ANEM-10SF. 30¢ |
| —His Excellency. Pretty scarlet flowers | ANEM-10SE. 25¢ |
| —The Governor. Double bright scarlet flowers | ANEM-10SG. 25¢ |
| —Mixed. All the <i>A. coronaria</i> varieties blended | ANEM-10X. 15¢ |

| | |
|--|--------------|
| alpina. Cream inside, purplish out; 3" across; 1½ ft; HP | ANEM-3. 25¢ |
| —sulphurea. A yellow variety | ANEM-3S. 35¢ |

| | |
|--|---------------|
| biflora. | ANEM-8. 20¢ |
| barbulata. | ANEM-7. 30¢ |
| cylindrica. Candle A. Greenish white clusters; 2 ft, HP | ANEM-11. 25¢ |
| demissa. White fls purplish outside, in clusters; Aug-Sept; 1 ft; HP | ANEM-16. 15¢ |
| Drummondii. Fls cream, blue outside; June-July; moist soil; RG, 6", HP | ANEM-17. 25¢ |
| globosa. Fls red to bronze-green; May-Sept; 18"; HP | ANEM-19. 20¢ |
| Halleri. For sunny places, lilac fls; June; RG; 6", HP | ANEM-20. 25¢ |
| Hybrida japonica. Autumn flowering hyb's white tinged rose, 3 ft; HHP | ANEM-21. 20¢ |
| magellanica. | ANEM-32. 20¢ |
| —Giant Form. | ANEM-32G. 20¢ |

| | |
|---|-----------------|
| Lesseri. | ANEM-28. 1¢ |
| —Lesseri. Dwarf form; ferny lvs; deep pink fls; Aug-Sept; HP; sun | ANEM-28(W). 30¢ |
| montana. Dark violet, drooping fls; 6"; HP | ANEM-34. 20¢ |
| multifida. | ANEM-35. 35¢ |

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|---|------------------|
| myosoidiflora: see <i>Brunnera macrophylla</i> . | |
| —narcissiflora. White fls in clusters; 1 in. ac; 1½ ft; HP | ANEM-36(C). 30¢ |
| nivricans. Purple-black fls; Pulsatilla Group; 1 ft; HP | ANEM-38. 20¢ |
| occidentalis. White or purplish fls, 2" across; May; 1½ ft; HP | ANEM-39. 20¢ |
| patens nuttalliana. Purple fls very early in spring; 8"; HP | ANEM-44N. 20¢ |
| —pratensis. Dark purple; 1 ft; Pulsatilla Group; HP | ANEM-45. 20¢ |
| Pulsatilla. Violet fls; April; likes lme, fine spring fls; 1 ft, HP | ANEM-46. 15¢ |
| —ameena. | ANEM-46E. 20¢ |
| —rubra. Red fls 2½ in. ac. | ANEM-46R(C). 30¢ |
| —alba. A beautiful creamy white form; 8" HP | ANEM-46A. 15¢ |
| —australis. | ANEM-46T. 20¢ |
| —Violet-Blue. Splendid color strain | ANEM-46V. 20¢ |
| —Gayeri. | ANEM-46G. 20¢ |
| —Mallenderi. | ANEM-46L. 20¢ |
| —montana. Dark violet drooping flowers | ANEM-46M. 25¢ |
| —patens. Flowers purplish, 2½" across | ANEM-46P. 25¢ |
| —seerottina. | ANEM-46S. 20¢ |

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|--|-----------------|
| slavica. Collected in Austria | ANEM-54. 20¢ |
| —ranunculoides. Yellow Wood A.; Golden yellow; Siberia; 8in; HP | ANEM-49(C). 30¢ |
| rivularis. White tinged blue; 1½" across; 3 ft; India | ANEM-51. 25¢ |
| sylvestris. Pure white, fragrant, nodding fls; May-June; 1½ ft, HP | ANEM-56. 20¢ |
| virginiana. White or greenish fls, fine for meadows; June-Aug; 3 ft HP | ANEM-60. 20¢ |
| vitifolia. Grape-leaf A., fls white, 2" ac. in cymes, July; HP | ANEM-61. 30¢ |

ANTHERICUM (an-THER-i-kum)

Tuberous-rooted herbs of the Lily Family having racemes of small white lily-like flowers and long narrow grassy leaves. Common names are St. Bernard's Lily, St. Bruno's Lily. In the North they require protection. They make fine GH plants or for use in lawn vases in the summer. Require plentiful supply of water when blooming.

| | |
|---|-------------|
| liliago. Neat species, small white fls; 18"; HP | ANTE-3. 25¢ |
| ramosum. Tufts of grass-like foliage; white flowers; RG; 2 ft, HP | ANTE-4. 25¢ |
| undulatum. White fls in racemes, easy; native S. Af.; 1 ft; HHP | ANTE-5. 25¢ |

AQUILEGIA (ak-wi-LEE-ji-ah)

Columbine. One of the most valuable of hardy perennials. Its foliage is attractive and the pretty spurred flowers cannot be equalled for color. Bloom early in the summer. Sow seeds any time so long as they can be shaded from the hot sun and are established early in the fall. Seed is sometime slow to germinate and early planting is best: they do best in a shaded place in the garden.

LONG SPURRED VARIETIES:

| | |
|---|---------------|
| Blue Shades. Finest strain in shades of blue; 3 ft; HP | AQUI-1B. 20¢ |
| Copper Shades. A new strain having a straw colored corolla; 2½ ft; HP | AQUI-1C. 20¢ |
| Dobbie's Hybrids. A choice European strain; 2½ ft; HP | AQUI-1D. 20¢ |
| —Helena. A mammoth flowered blue variety; 3 ft; HP | AQUI-1H. 20¢ |
| Mac's Strain. From one of the best commercial growers; all colors | AQUI-1M. 20¢ |
| Crimson Star. Brilliant; crimson sepals and spurs, white petals; HP | AQUI-10C. 25¢ |
| Mrs. M. Nichol's Strain. Very choice in nice blue shades; 2½ ft; HP | AQUI-10N. 25¢ |
| Mrs. Scott Elliott Strain. Beautiful; extra color combinations; HP | AQUI-10S. 25¢ |
| Munstead White. A beautiful white strain; HP | AQUI-1T. 25¢ |
| Rose Queen. Select strain of pretty pink shades; 3 ft; HP | AQUI-1Z. 20¢ |
| —Orange and Scarlet Shades. Very choice; 3 ft; HP | AQUI-1G. 20¢ |
| Pink Shades. Choice strain in all shades; HP | AQUI-1P. 20¢ |
| Snow Queen. Finest white, long spur, fragrant; 3 ft; HP | AQUI-1S. 20¢ |
| W-F Hybrids. Unique colors in Columbine extra good; 3 ft; HP | AQUI-1W. 20¢ |
| Saier's Long Spurred Blend. Made up of all the very best strains; HP | AQUI-1X. 20¢ |

Columbine Species:

| | |
|--|--------------|
| alpina. Very rare RG sp; short spurred; deep blue; 1½ ft HP | AQUI-2. 20¢ |
| —Bertoloni. Alpine; fls 1" ac; blue-violet; very short spurs; 1 ft; HP | AQUI-7. 40¢ |
| canadensis. Yellowish or red sepals, red spurs, May-June; 2½ ft; HP | AQUI-11. 40¢ |
| chrysantha. Yellow, long spurs; May-Aug; 3 ft; HP | AQUI-12. 20¢ |
| —clematiflora. Pale pink and blue hybrids; 1½ ft; HP | AQUI-14. 25¢ |
| fabellata. Pretty dwarf sp, pure white, early; 1 ft; HP | AQUI-22. 25¢ |

AQUILEGIA: Continued on Page 249.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

PERENNIALS TO PLANT NOW

AQUILEGIA: Continued from Page 248.

| | | |
|---|----------|-----|
| formosa.....Red and yellow; RG sun or shade; 9"; HP..... | AQUI-23 | 25¢ |
| Jaeshkanii..... | AQUI-121 | 25¢ |
| —Silver Queen. A beautiful white strain; HP..... | AQUI-125 | 25¢ |
| glandulosa. True alpine, powder blue and white fls; RG; 8"; HP..... | AQUI-24 | 25¢ |
| —longissima. Lovely pale yellow fls; very long spurs; 3 ft HP..... | AQUI-32 | 25¢ |
| Hensol Harebell. A vivid deep violet blue; 1½ ft; HP..... | AQUI-26 | 25¢ |
| pyrenaica. Dwarf deep blue; 6"; HP..... | AQUI-38 | 25¢ |
| —Reuteri: see A. Bertolonii. | | |
| Skinneri. Crimson red with greenish yellow sepals; spurs pale red HP..... | AQUI-42 | 25¢ |
| Torkington's Double.....Pretty double fls; will show few singles; 2½ ft HP..... | AQUI-46 | 25¢ |
| —vulgaris. (A. transsilvanica); fls 2" ac, nodding blue and white; 18"; HP..... | AQUI-48 | 40¢ |
| vulgaris erecta. Edelwiss..... | AQUI-46E | 20¢ |
| Species Blend. Made up of the species above; no long spurred sorts..... | AQUI-X | 20¢ |

ARABIS (AR-ah-bis)

Rock Cress. Annuals, biennials, perennials with several fine RG species all easily grown; mostly low, fls in terminal spikes or racemes, blooming in early spring.

| | | |
|--|----------|-----|
| —alpina grandiflora. A large pure white strain; 9"; HP..... | ARAB-2G. | 15¢ |
| —nana compacta. A very dwarf free flowering white strain; HP..... | ARAB-2C | 20¢ |
| —rosea. Very pretty bright rose strain; silver-gray fol; 6"; HP..... | ARAB-2Z | 20¢ |
| Breweri. Rare dwarf shrubby sp, RG, fls deep red; 6"; Cal; HP..... | ARAB-9 | 25¢ |
| Frühingszauber. Pretty carmine-rose variety from Switzerland..... | ARAB-28F | 20¢ |
| pumila. Snow Cap..... Profuse, white flowers; trailer, RG; 6"; HP..... | ARAB-35S | 25¢ |
| purpurascens. Dense cushions of neat rosettes; deep rose; HP..... | ARAB-36 | 25¢ |
| Schneehaube. A pretty white strain; very early; HP..... | ARAB-39 | 20¢ |
| Saier's Arabis Blend. Hand made blend of many species and varieties..... | ARAB-X | 20¢ |

ARENARIA (ar-e-NAY-ri-ah)

Sandwort. Low growing annuals and perennials usually in low mats; RG.....They are excellent for carpet bedding; do best in sand soil.

| | | |
|--|-------------|-----|
| —Kotschyana. Compact, tufted glossy; many white fls; 2-3 ft; HP..... | AREN-22(W). | 30¢ |
| laricifolia. Large white fls, extra RG, 8"; HP..... | AREN-23 | 20¢ |
| lithophila. Extra good white fls, April-May; 1 ft; HP..... | AREN-27 | 20¢ |
| montana. Charming sp; pure white, free bloomer, trailer; HP..... | AREN-29 | 25¢ |
| Arenaria Blend. All kinds mixed..... | AREN-X | 15¢ |

ARMERIA. (ahr-MEER-ee-ah) THRIFT. SEA-PINK. Plumbaginaceae. G-2 wks

Statice, Thrift, Sea-pink. Dwarf perennials making excellent border and RG plants best in a sunny position and well drained. The genus has been reclassified of late.

| | | |
|---|--------------|-----|
| —corsica.....(A. leucocephala v. procera) Pale rose-pk; 12"; HP..... | ARME-5. | 50¢ |
| —formosa hybrids. Large fls in many colors; 18"; HP..... | ARME-6H. | 15¢ |
| —Great Pink. Clear rose-pink, 2" ac; 1½ ft; HP..... | ARME-6G. | 15¢ |
| —Six Hills Hybrids. A very pretty English strain..... | ARME-6S. | 25¢ |
| —juniperifolia. Hardy RG alpine; 2" tall; white to deep pink, HP..... | ARME-10. | 25¢ |
| —maritima. White to deep rose; 1 ft; HP..... | ARME-14. | 15¢ |
| —alpina. White fls 1" ac; 8 inches high; HP..... | ARME-14A. | 15¢ |
| —alpina. Pink heads, 1" ac; 8 inches high..... | ARME-14A(C). | 30¢ |
| —Lauchiana. Rose and pink beads; 1 ft; tufts; HP..... | ARME-15L. | 20¢ |
| —tomentosa. Climber to 30 ft; native N. C. Fla; HCl; Lb. \$3.25..... | ARST-19. | 25¢ |
| Welwitschii v. stenophylla. Tufted sh pink flower heads 1 ft; HHP..... | ARME-22 | 25¢ |
| —Armeria Blend. All kinds mixed; will make fine flowers for drying..... | ARME-X. | 15¢ |

ASCLEPIAS (as-KLEE-pi-as)

Silkweed. Attractive habit and showy flowers; they make nice plants in the border. They are easily grown from seed started same as most perennials.

| | | |
|--|----------|-----|
| curassavica.....Blood Flower. Reddish purple corolla, or. hoods; 3 ft; TA..... | ASCL-3 | 20¢ |
| syriaca. Green or purplish fls; July-Aug 5 ft HP..... | ASCL-14 | 20¢ |
| tuberosa. Orange flowers, July-August, 2-3 ft., HP..... | ASCL-15. | 15¢ |

ASPERULA (as-PER-ee-lah)

Used mainly in the RG or for carpeting shady places, growing best in moist spots. Easily grown; the leaves are in whorls and the flowers small lily-shaped, in white, blue or pink. Woodruff.

| | | |
|--|----------|-----|
| —orientalis. Pretty blue fls effective in carpeting; ft; HP..... | ASPR-13. | 15¢ |
| —finctoria. Procumbent, white fls, red outside; 1 ft; HP..... | ASPR-15. | 15¢ |

ASPHODELINA (ass-pho-de-LIN-ee) Jacob's..Rod.

Differs from Asphodelus only in the flower stems being leafless and the foliage clustered at the base; culture.

| | | |
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| —lutea. King's Spears; frag yellow; racemes; part shade; 2-4 ft; HP..... | ASPD-4. | 30¢ |
|--|---------|-----|

AUBRIETA (au-BREE-shi-ah)

Choice mat forming perennials prized for their abundant flowers in the spring. They are favorites in the rock garden and closely allied to and resemble Arabis. Easily grown from seed, started any time, for flowering the following season. They are especially good between rocks and like a little shade.

| | | |
|--|----------|-----|
| —Campbelli. Ageratum blue..... | AUBR-2C. | 20¢ |
| deltoidea. The species of which all the popular garden varieties belong..... | AUBR-2. | 15¢ |
| —Eyre. Very beautiful blue; HP..... | AUBR-2E. | 25¢ |
| —græca. Large and more bushy than type; HP..... | AUBR-4. | 25¢ |
| —hybrida. Large flowered types from crosses; HP..... | AUBR-3C. | 20¢ |
| —Glorious. Regal Hybrids..... | AUBR-2H. | 20¢ |
| —Hendersonii..... | AUBR-2L. | 25¢ |
| —Leitchlinii. Deep purple-rose; HP..... | AUBR-2W. | 20¢ |
| —Whitewall Gem. Pretty violet flowers; HP..... | AUBR-2V. | 20¢ |
| —Violacea. Improved form, pure violet flowers..... | AUBR-2V. | 20¢ |
| —Aubrieta Blend. Many varieties mixed; HP..... | AUBR-X. | 20¢ |

AUCUBA (AU-keu-bah)

| | | |
|--|----------|-----|
| —japonica. Tree to 15 ft; scarlet fr; hardy to Ohio River..... | ACUB-6. | 25¢ |
| —aureo maculata..... | ACUB-6A. | 25¢ |

BALSAMORHIZA (Bol-sam-or-RYE-zuh) Balsam Root

An American genus having Sunflower-like flowers. The roots are large and resinous. They are nice plants in the wild garden.

| | | |
|---|---------|-----|
| —sagittata. Leaves like shields; 1½-2 ft tall; April, HP..... | BALS-5. | 15¢ |
|---|---------|-----|

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

PERENNIAL SEED

PRICES: ¼ Oz. at the Ounce rate; 4 Oz. at the lb. rate; no order accepted for less than ¼ ounce, at these growers rates.

| | Per Oz: | Lb. |
|--------------------------------|---------|-------|
| ACHILEA, piarmica, The Pearl | 1.25 | 14.00 |
| ANCHUSA italica, DROPMORE | 5.00 | 4.00 |
| —myosidiflora, light blue..... | 4.00 | — |
| ANEMONE coronaria ST. Brigid | 1.30 | 9.00 |
| ARABIS alpina Snow CAP..... | .80 | 8.00 |
| ARMERIA formosa hybrids..... | .90 | 9.50 |
| AUBRIETIA Large Flowered hyb | .90 | 9.50 |
| — Whitehall Gem, violet..... | 1.40 | 9.90 |

BELLIS

| | | |
|-------------------------------------|------|------|
| —Miniature double mixed..... | 1.00 | 9.50 |
| —perenns double, mix or colors..... | .90 | 9.00 |
| —monstroza, Giant fl'd Mixed..... | 1.40 | 9.90 |

CAMPANULA. Mixed or in colors

| | | |
|---|------|------|
| —carpatia. Blue or white..... | .60 | 5.00 |
| —rotundifolia Superba, purple-blue..... | 4.00 | — |
| —Medium, single..... | .50 | 2.50 |
| —double..... | .80 | 5.00 |
| —calycanthma Cup-and-Saucer..... | .90 | 8.00 |
| —persicifolia Telham Beauty..... | 1.80 | — |

CARNATIONS

| | | |
|------------------------------------|------|---|
| —Giant Chabaud Best Mixed..... | 4.00 | — |
| —Enfant de Nice Mixed..... | 7.00 | — |
| —Hardy Garden Simon's Triumph..... | 4.00 | — |
| —Hardy Grenadin, Mixed..... | 1.80 | — |
| —Teicher's Strain Extra good..... | 5.00 | — |
| —Hardy Vienna, Mixed..... | 1.60 | — |

CHRYSANTHEMUM.

| | | |
|---------------------------------|-----|------|
| CHRYSANTHEMUM (Shasta Daisies) | | |
| —May Queen. Earliest, good..... | .90 | 8.00 |
| —Mixed. Choice..... | .80 | 4.50 |

DELPHINIUM

| | | |
|------------------------------------|------|-------|
| —Belladonna, light blue..... | .90 | 7.00 |
| —Butterfly, Cambridge blue..... | .90 | 6.00 |
| —Bellamosum, dark blue..... | 1.00 | 9.00 |
| —Galahad Series, white..... | 3.00 | 30.00 |
| —Blue Jay, mid-blue, dark bee..... | 3.00 | 30.00 |
| —King Arthur, royal purple..... | 3.00 | 30.00 |
| —Cameliard, lavender, WB..... | 3.00 | 30.00 |
| —Round Table, blend..... | 2.50 | 25.00 |
| —Blue Bird, mid-blue, WB..... | 3.00 | 30.00 |
| —Black Knight, dark blue..... | 3.00 | 30.00 |
| —Lancelot, clear lilac..... | 3.00 | 30.00 |
| —Summer Skies, light blue, WB..... | 3.00 | 30.00 |
| —Blend. All Series..... | 2.50 | 25.00 |

(NOTE: Place all Delphinium seed in the refrigerator upon receipt, till planted.)

DIANTHUS Heddewigi, Giant Single.....

| | | |
|--------------------------------|------|-------|
| —Double..... | .75 | 4.50 |
| —Plumarius, Single Mixed..... | .90 | 5.50 |
| —Double Semi-double Mixed..... | .50 | 4.00 |
| —Allwoodii Alpinus..... | 1.00 | 9.00 |
| —Deltoides erecta..... | 1.20 | 9.00 |
| —Deltoides erecta..... | 1.00 | 12.00 |

DIGITALIS, The Shirley.....

| | | |
|-------------------------|-----|------|
| —Gloxinea Flowered..... | .50 | 4.50 |
| —Gloxinea Flowered..... | .60 | 5.00 |

DORONICUM magnificum.....

| | | |
|----------------------|-----|------|
| —Echinops ritho..... | .50 | 3.00 |
|----------------------|-----|------|

GALLIARDIA, Best Varieties.....

| | | |
|----------------------------------|------|------|
| —Galliardia, Best Varieties..... | 1.00 | 9.00 |
|----------------------------------|------|------|

GYPSOPHILIA paniculata.....

| | | |
|------------------------|------|-------|
| —Double Snowflake..... | .60 | 5.00 |
| —Double Snowflake..... | 3.00 | 35.00 |

HELICHRYSUM mons. Mixed.....

| | | |
|-------------------|-----|------|
| —bronz color..... | .60 | 6.00 |
| —bronz color..... | .70 | 6.50 |

HOLLYHOCK Chater's Double.....

| | | |
|---------------------------------|------|------|
| —Hollyhock Chater's Double..... | 1.00 | 9.00 |
|---------------------------------|------|------|

LARKSPUR

For fall planting in the South; keep seed refrigerated until planted.

| | | |
|-------------------------------|-----|------|
| —Stock Flowered Mixed..... | .65 | 4.50 |
| —Hyacinth Flowered Mixed..... | .50 | 4.00 |
| —Giant Imperial Mixed..... | .50 | 4.00 |
| —Super Majestic, Mixed..... | .60 | 6.00 |

LILY SEED.

| | | |
|----------------------------------|------|-------|
| —Regale..... | 1.00 | 14.00 |
| —White..... | 2.50 | 25.00 |
| —Tenuifolium..... | 2.25 | 20.00 |
| —formosanum White Excelsior..... | 4.00 | 35.00 |
| —Henry..... | 3.50 | 35.00 |

LUPINUS, Russel Hybrids.....

| | | |
|-------------------------------|------|------|
| —Lupinus, Russel Hybrids..... | 4.00 | 4.00 |
|-------------------------------|------|------|

PANSY

(See also Page 253)

| | | |
|---|------|-------|
| —Englemann's Special Mixture..... | 3.50 | 30.00 |
| —Goliath or Masterpiece, ruffled and frilled..... | 2.50 | 18.00 |
| —Maple Leaved..... | 2.50 | 20.00 |
| —Oregon Giants..... | 2.75 | 23.00 |
| —Sunnybrook Giants..... | 2.75 | 23.00 |
| —Mastodon Giants..... | 2.75 | 23.00 |
| POPPY, Oriental Mixed Varieties..... | 1.00 | 12.00 |
| PYRETHRUM Hybrids, extra do..... | 2.50 | 22.00 |
| —Single Mixed..... | 1.00 | 8.00 |
| SWEET WILLIAM, double..... | .50 | 3.00 |

(Continued on Page 256)

If the Grass want Grow Chamomile Suggested

Joseph A. Walker of Schenectady, N. Y., sends us an article about planting Camomile as a "grass seed" in places where grass will not grow. The subject is of interest and we are reproducing part of the article with the special that some of our readers may have had some experience along this line both in planting Camomile for such a purpose or in solving Mr. Walker's problem.

The article states, "Where grass does not grow well because of poor soil and lack of moisture, a lawn might be started with old-fashioned camomile (*Anthemis nobilis*). This perennial may be mixed with grass where the lawn is persistently thin and, if desired, it may be used to make an entire lawn.

Camomile does want some sunshine and that is about all it does ask. It is strong-growing, and once it makes itself at home it spreads rapidly. It will, in fact, take possession of every square inch it is permitted to occupy.

Drought does not discourage camomile. Ordinary grasses during a dry spell of even moderate severity often turn as brown as freshly turned loam; in prolonged dryness many grasses die. But not camomile, for it likes heat and drought.

Another virtue is its ability to withstand abuse. In this respect it is better than many grasses. Camomile may be walked on freely without harm. Camomile needs to be mowed, just like grass, perhaps every week or ten days. Frequency depends on the weather.

The use of camomile as a ground cover is little practiced in America and, so far as is known, no lawn has been made entirely of it in this country. In England, however, it is now widely used as a ground cover, and in olden days was extensively planted for a lawn.

No data exist on the hardiness of camomile in the sections of the United States where winter temperatures drop far below zero. It withstands hard freezing, so it can be useful over much of the nation.

The easiest way to establish camomile is to sow a mixture of camomile seed and grass seed, about half and half, just as a lawn would ordinarily be started. Everyone seems to want pure turf grass today, but the mixture of camomile and grass seed will thrive in poor, sandy and dry soil. In a short time the robust camomile will kill off the grass and take possession.

Plants may be started in a seed bed, just as most ordinary perennials are grown. When they are six months old they are set where they are to grow, centered about five inches apart. The plants, within the next six months of growth, will fill in and make a solid, always green lawn. If left unclipped they will grow one foot tall and produce flowers."

We have grown *Anthemis nobilis* for seed but it is strictly a weed and commonly found in all barn yards, the dryer and poorer the soil the better. The flowers are not of much value either but where ever it is grown there will be plenty of plants. We also wonder what suggested the thought to the writer of the article to advise the transplanting of camomile; first on a soil so poor as to have this sort of treatment, it seems that so much work could be better spent in making the soil better but what is most true is the fact that the plants would grow just as

MINNESOTA NATVE PLANTS

We are fortunate to be able to offer collected Minnesota native plants, all of which of course, are very hardy. Those wishing any species from this section and will so indicate, we will make an effort to locate for them.

The following will be mailed, postpaid, this fall or if you wish, next spring. Orders should be placed as early as possible, so that our collector can arrange his trips and, therefore make delivery on all items ordered.

AQUILEGIA CANADENSIS. American Columbine. Good for rockery or border, sun or part shade.

ASARUM CANADENSE. Wild Ginger. Good ground cover for shady spots. If you wish it in quantity advise and we will quote.

ARISAEMA TRIPHYLLUM. Jack-in-the-pulpit.

CALTHA PALUSTRIS. Marsh Marigold.
CAULOPHYLLUM THALICTROIDES. Blue Cohosh. Deep blue berries in fall; 2 feet tall.

CLINTONIA BOREALIS. Bluebeads. Small lily-like bloom in spring; very dark blue berries in the fall; must have an acid soil.

DODECATHEON MEDIA. Shooting Stars. White to rosy purple Cyclamen-like blossoms in the spring.

GERANIUM MACULATUM. Wild Geranium. Rosy pink blooms for the rockery or border; 1 foot tall.

HEPATICA TRILOBA. Round Lobed Hepatica. White to deep blue blossoms; acid soil.

IRIS VERSICOLOR. Blue Flag. For moist places.

MIMULUS RINGENS. Monkey Flower. Blue Snapdragon-like blossoms with yellow centers; 2 feet high.

PARNASSIA PALUSTRIS. Grass Parnassus. White buttercup blossoms on slender stems.

POLYGONATUM BIFLORUM. Solomon's Seal. Drooping white bells, followed by nearly black berries.

SANGUINARIA CANADENSIS. Blood Root. White blooms in early spring; showy leaves until late summers.

TRILLIUM CERNUUM. Nodding Trillium. Drooping white blossoms.

UVULARIA PERFOLIATA. Merrybells. Drooping yellow bells in the spring; easy to grow in shade; it's good.

VIOLA BLANDA. Sweet White Violet. Fragrant small white violet.

PIONEER SEED COMPANY

fast and well, if scattered over the soil in the first place.

To us it seems that unless there was a spot so hopeless as to require camomile for a covering, that some other effort should be made, especially in planting shrubs, etc.

What is your opinion?

THE MULBERRY TREE

The Fruitless Mulberry the Michigan lady speaks of, no doubt is a male Mulberry. I have lived on farms that had many Mulberries, in Nebraska and we found many

VIOLA CANADENSE. Canada Violet. Lavender and white; blooms nearly all summer.

VIOLA CONSPERSA. Dog Violet. Pale blue, early.

ATHYRIUM FILIX-FEMINA. Lady Fern. One of the easiest in shady places. Bladderfern. Graceful arching fronds to 3 feet. Fine for moist places.

DRYOPTERIS DILATATA. Mountain Fancy Fern. Beautiful evergreen fern; best in moist shady spots.

DRYOPTERIS LINNEANA. Oak fern. Beautiful tiny 6 inch fern with branched fronds; moist shade.

DRYOPTERIS PHEGopteris. Narrow Beech Fern. Arrowhead-shaped fronds on 6-8 inch stems; moist shade.

DRYOPTERIS THELYPHERIS. Marsh Fern. Upright fronds to 18 inches; moist spots, sun or shade.

PTERIS NODULOSA. Ostrich Fern. For sun or shade; tall, graceful fern to 5'.

PRICES: Any 6 of the above for \$1.50; any 12 for \$2.50; any 35 for \$7.00; postpaid.

AMELANCHIER CANADENSIS. Juneberry.

ARONIA MELANOCARPA. Black Chokeberry.

CORNUS ALTERNIFOLIA. Pagoda Dogwood.

CORNUS STOLONIFERA. Red Osier Dogwood.

ILEX VERTICILLATA. Winterberry.

DIREA CANADENSIS. Leatherwood. 6 to 12 inches.

SAMBUCUS PUBENS. Red Berried Elder.

SYMPHORICARPUS RACEMOSUS v. NANUS. Dwarf Snowberry.

VIBURNUM DENTATUM. Arrowwood.

VIBURNUM LENTAGO. Nanny Berry.

PRICES: Any two of the above for \$1.25; any 6 for \$3.50; postpaid. All except Leatherwood are 18-24 inch stock.

CYPRIPEDIUM ACAULE. Pink Moccasin Flower.

CYPRIPEDIUM PARVIFLORUM. Small yellow Lady Slipper.

CYPRIPEDIUM SPECTABILE. Showy Lady Slipper.

PRICE: Any two of above for \$1.00; any 6 for \$2.75; postpaid.

DIMONDALE MICHIGAN

of these sterile trees, some seem to bloom then all fall off. But we had so many bearing trees that we never paid any attention to those that did not bear fruit.

By Rosina Gen, Arkansas.

DOGWOOD SEED BEST STRATIFIED

Most hard coated seed like the Dogwood and Black Haw germinate quickly if they are stratified in granulated peat for about four months at a temperature between 33-40 degrees F.

ORDER BLANK

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

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PLACE YOUR ORDERS AS EARLY AS POSSIBLE PLEASE

All seeds, plants, bulbs and nursery stock shipped by the Pioneer Seed Company is guaranteed to be in first class condition when it leaves our hands. If, upon arrival, the shipment is otherwise, we must be notified at once. On all sales, our responsibility is not to be in excess of the original purchase price. No sale is made on any other terms.

M.L

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|-------|------------------|--------------|-------|
|-------|------------------|--------------|-------|

S

Our READERS' COLUMN

GARDENING NEAR MT. SHASTA

Mrs. Frank Mullen writes for literature that will help her in growing flowers at an elevation of 2,500 feet near the beautiful Mt. Shasta in California.

Probably some of our California readers can suggest suitable books

IPOMOEAE SPECIES WANTED

August E. Kehr in Louisiana, writes they have a research project for cytogenetic studies in which species of Ipomoea (Pharbitis), Calonyction (Ipomoea), Operculin, Merremia, Exogonium or Quamoclit are needed.

If any of our readers are growing or know of these growing wild, we will be pleased to pass on the information to Mr. Kehr.

SEED LIST WANTED IN ONE ISSUE

Your magazine is very unique, but there is just one objection I have, the seed list isn't complete in a single issue. I like the way you show correct pronunciation for I think most of us are guilty of stumbling over them, most of the time.

Then it seems to me that, over a period of time, we will eventually have a fairly concise idea of how to treat the more difficult seeds for better germination. For sometime I have been getting tree and shrubs seed from a well known source without results. I had about decided the seeds were too old for I know many kinds have to be refrigerated or planted almost immediately while others demand a curing process.

However, I did have very good results with seed of Sequoia and have trees that are doing nicely. The trees have proven hardy here at -14 degrees. Also the Cork Oaks, which I think possibly hasn't been grown this far north. Mimosa winter-kills at the top but comes again from the ground as does also the Empress tree.

Growing anything from seeds is interesting, especially the unusual or difficult.

By Mrs. N. L. Hauskins, III.

The remark by Mrs. Hauskins about the seed list not being complete in each issue, is the most common complaint that we receive. First, if the list could be gotten in one issue, there would be no room left for descriptions or cultural information. The cost of issuing a catalog in these "enlightened times" is such that it is impossible to send them out profitably. Besides this, the seed list changes from month to month and by the present arrangement all the available seeds can be listed as received. We know that those not regular subscribers and who get a free copy, have only part of the list but these sample copies are sent out with the idea that you will be interested enough to subscribe. We are mailing out less free copies as time goes on due mainly to the heavy cost and we feel that if one feels that there is not \$2.00 worth of information in 12 issues, than a single copy even would not be worth the postage.

We might also add that we hope more subscriptions will be sent in because we can give more service the larger the issue.

The subscription price is still but \$2.00

PERENNIALS TO PLANT NOW

BAPTISTA (bap-TEZ-ee-ah) False or Wild Indigo

Sturdy perennials growing to 6 ft. The foliage is deep green and attractive in the border; the flowers resemble Lupines in form and come in all shades of blue, white and yellow. Late in the fall the seed pods turn black and are thus rather showy. Seed can planted where the plants are to grow; easily grown; a rich soil best; hardy perennials.

—**australis**. Deep blue flowers; 3-4 ft; June-July; tallest species..... **BAPT-2. 15¢**
—**hybrids**. These come in varying shades of blue..... **BAPT-2H. 15¢**

BELLIS (BELL-iss)

Herbaceous annuals or perennials. They need a fertile moist soil with plenty of sun. Seed planted in the fall and wintered over in the cold frame will flower in the spring or seed can be started indoors with same result. They grow 6-8 inches tall and make very attractive bedding or edging plants; cool weather plants; try with Pansies or Myosotis.

CHEVREUSE: Large flowering French strain.

—**White**..... **BELL-5W. 20¢**
—**Rose**..... **BELL-5Z. 20¢**
—**Crimson**..... **BELL-5C. 20¢**
—**Mixed**..... **BELL-5X. 20¢**

MINIATURE TYPE: Small flowered type very dainty for edging; HB.

—**Rose**..... **BELL-7Z. 20¢**
—**White**..... **BELL-7W. 20¢**
—**Miniature Mixed**..... **BELL-7X. 20¢**

MONSTROSA: Giant flowered type, strong growers; fine for bedding.

—**Red Beauty**. Double red flowers..... **BELL-4R. 20¢**
—**Rose Beauty**. Pretty double rose flowers..... **BELL-4Z. 20¢**
—**White Beauty**. Double pure white..... **BELL-4W. 20¢**
—**Monstrosa Blend**. In red, pink, rose and white..... **BELL-4X. 15¢**

MONSTROSA TUBULOSA: Flowers with pretty quilled petals; the flowers double.

—**Bernina**. White changing to pink; double..... **BELL-6B. 20¢**
—**Etna**. Double dark red..... **BELL-6E. 20¢**
—**Lutea**. Double rich yellow flowers..... **BELL-6L. 20¢**
—**Tiflis**. Double carmine-rose..... **BELL-6T. 20¢**
—**Tubulosa Blend**. Made up of the above varieties..... **BELL-6X. 20¢**

PERENNIS: True or English Daisy; 6"; HP; popular spring plants

—**Longfellow**. An extra double bright red strain..... **BELL-3L. 15¢**
—**Rose**. Same in a ood rose..... **BELL-3Z. 15¢**
—**Vesuvius**. Extra double ruby-red..... **BELL-3V. 15¢**
—**Rosea**. White with delicate rose center..... **BELL-3Z. 15¢**
—**Snowball**. Pure white; double flowers..... **BELL-3W. 15¢**
—**Perennis Blend**. Above varieties..... **BELL-3X. 15¢**
—**Bellis Daisies Mixed**. All kinds and types..... **BELL-X. 15¢**

BOLTONIA (bol-TOH-nee-ah)

They resemble wild Asters; are easily grown from seed and make nice plants in the border or wild garden; found in moist places; HP.

—**latijsuama**. Heads in rays blue-violet; 1 inch across; HP..... **BOLT-2. 20¢**

BRODIAEA (broh-di-EE-ah)

Hardy on West Coast and in the South; in North they can be grown in RG with good winter protection. Excellent for naturalizing; dislikes wet situations

—**californica**. Violet-purple fls; 1 ft., Calif; HP..... **BROD-2. 25¢**
—**capitata**. (Now *Dichelostemma pulcellum*)..... Earliest, light blue, HP..... **BROD-3. 25¢**
—**Hendersonii**. Fls. striped brown in heads, RG, 6 in., HP..... **BROD-7. 25¢**
—**ixiodes**. PRETTY-FACE. Salmon-yellow 18"; Ore; HP..... **BROD-8. 50¢**
—**orecutii**. San Diego Wild Hyacinth..... **BROD-9. 25¢**
—**puchella**. Erect heads, clear blue. 2 ft, sun, HP..... **BROD-11. 25¢**
—**Brodiaea Blend**. Blend of all species..... **BROD-X. 20¢**

CALLIRHOE (kal-LIHR-oh-ee) Poppy-mallow

Poppy Mallow. N. A. annuals and perennials, picturesque lobed foliage and showy flowers in pink, red or reddish purple, long in bloom; thrives in poor and dry soils.

—**involuta**. Wine Cup. Claret crimson, cup-shape; June-Sept; 30"; HP..... **CALI-2. 20¢**

CALOCHORTUS (kaloh-KORT-us) Mariposa-lily, Globe Tulip

W. Am. plants of Lily F. forming corm and bearing bell-shaped lilac, yellow or white flowers. They are known under the names Mariposa Tulips, Butterfly Tulips, Globe and Star Tulips, Sego Lily and Fairy Lanterns. Of great beauty; hardy in the N but should be protected against winter heaving. Sunny places; light soil; well drained; raised beds should be ideal; handle bulbs much as you would Tulips.

—**albus**. Fls white, purplish at base; 2 ft tall; HP..... **CALO-2. 20¢**
—**concolor**..... **CALO-12. 30¢**
—**hybrid**. A possible hybrid of C. concolor and Weedii..... **CALO-21. 25¢**
—**Hybrida superba**. Excellent strain of bicolor hybrids..... **CALP-6HX. 15¢**
—**luteus v. citrinus**. Lemon yellow with dark brown spot; 2 ft; HP..... **CALO-23C. 25¢**
—**macrocarpus**. Lavender; 10 in. tall; June-July HP..... **CALO-25. 25¢**
—**Maweanus**. Best of genus; lavender RG; 4 in early spring; HP..... **CALO-26. 30¢**
—**splendens**. Lilac Mariposa; Calif; 2 ft; HHP..... **CALO-38. 25¢**
—**Weedii**. Yellow dotted with orange-brown; 2 ft; HP..... **CALO-46. 25¢**
—**Calochortus Blend**..... **CALO-X. 20¢**

CALTHA... (KALTH-ah) Crowfoot Family

Small succulent perennials thriving in marsh land near running water but can be grown in moist sections of the garden. They are especially nice near water gardens blooming in the spring and often again in the fall. Long lasting when cut.

—**biflora**. White buttercups; RG or bogs, in full sun, HP..... **CALT-1. 30¢**
—**pulustris alba**. Rare pure white form; 2 ft; HP..... **CALT-5A. 40¢**
—**leptosepala**. Similar to C. bicolor; 4 inches high; HP..... **CALT-4. 25¢**
—**palustris**. Marsh Marigold; bright yellow, 2 in. ac; Apr-June; 2 ft; HP **CALT-5(C). 30¢**
—**scaposa**. Seeds collected in India..... **CALT-8. 20¢**

CAMASSIA ka-MASS-ee-ah) Camass

N. Am. bulbous plants of the Lily Family. Blue and white flowers in graceful racemes and narrow grass-like foliage. Perfectly hardy; plant in groups.

—**esculenta**. Erect spikes of pale blue; cuts; 2 ft; HP..... **CAMA-3. 25¢**
—**Leichtlinii**. Pretty purple to creamy white; 1½-2 ft; HP..... **CAMA-6. 25¢**
—**Quamash**. Blue fls; 18 in. tall; May; fine..... **CAMA-7. 20¢**

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

PERENNIALS TO PLANT NOW

CAMPANULA (kam-PAN-yew-lah) Bellflower, Canterbury Bells

(kam-PAN-u-lah) Canterbury Bells; Bell Flowers; Harebell. Biennials, perennials and a few annuals. They are excellent for the border, some species for the rock garden and all make good cut flowers. All the biennials and perennials can be started from seed, sown indoors in March and set outdoors in May or June or they can be started about July. A covering of leaves is good for winter protection. The seed being small, it will be well to scatter them on a good light loam, press into the soil lightly and cover.

MEDIUM: Canterbury Bells; Single, 3 ft; June-July; HB

Canterbury Bells. (C. medium). Biennials, flower June-July; 3 ft; HB.

| | | |
|-----------------------|----------|-----|
| —Blue | CAMP-1B. | 15¢ |
| —Lilac | CAMP-1L. | 15¢ |
| —Rose | CAMP-1Z. | 15¢ |
| Blend of above colors | CAMP-1X | 15¢ |

DOUBLE FLOWERED CANTERBURY BELLS: 2½ ft; HB.

| | | |
|-----------------------------------|----------|------|
| Rose | CAMP-2Z | 15½¢ |
| White | CAMP-2W | 15¢ |
| Blue | CAMP-2B | 15¢ |
| Dean's Hybrids. Double and Single | CAMP-2XD | 20¢ |
| Blend of all colors | CAMP-2X | 15¢ |

CALYCANTHEMA: Cup and Saucer; 2½ ft; HB

| | | |
|---------------------------------|-----------|-----|
| calycanthema, White | CAMP-3W | 15¢ |
| —Blue Sky blue; single | CAMP-3B. | 15¢ |
| —Rose | CAMP-3Z | 15¢ |
| —Lilac | CAMP-3L | 15¢ |
| —Double and Single, Mixed | CAMP-3XD. | 15¢ |
| —Blend of all colors and shades | CAMP-3X | 15¢ |

Campanula Species:

| | | |
|---|-------------|-----|
| campanulata v. Moesiaca. Collected in Austria. | CAMP-1B. | 25¢ |
| barbata. Distinct, pretty, porcelain blue; 1 ft; HP | CAMP-13. | 25¢ |
| —cochlearifolia. (pusilla) Pretty RG pl; 2-8"; fls nodding; blue; HP | CAMP-24. | 25¢ |
| carpatia. Blooms all summer, erect fls, blue; July-Aug; 1 ft; HP | CAMP-20. | 15¢ |
| —turbinata. Erect cup-like, light blue fls, neat RG; 6"; HP | CAMP-20T | 25¢ |
| —White. Pure white; single | CAMP-20W. | 15¢ |
| collina. Deep blue fls, neat dwarf RG 8"; HP | CAMP-25. | 25¢ |
| drabifolia. 6 inch annual, fls blue with white tube, HB | CAMP-29. | 30¢ |
| Elatinus v. gargarica. Trailing species, blue fls, very nice, HP | CAMP-30G. | 25¢ |
| Formanekiana. Erect, large showy white fls; lvs silver-gray, 8", HP | CAMP-37. | 25¢ |
| fragilis. Tr. fine for hanging baskets; fls blue, white centers, 16", HP | CAMP-38. | 25¢ |
| glomerata. Blue or white, in dense clusters; 2 ft; HP | CAMP-39. | 30¢ |
| —incurva. Erect; pale blue fls 2 in. long; Greece; HB? | CAMP-42. | 30¢ |
| latifolia. Very large blue fls; excellent; 3 ft; HP | CAMP-51. | 20¢ |
| —alba. A white form of above | CAMP-51W | 20¢ |
| —macrantha. Large deep violet fls; showy in border; 2 ft; HP | CAMP-51M. | 20¢ |
| longistyla. Large nodding blue-purple fls; 18"; HB | CAMP-57. | 25¢ |
| persicifolia. Large blue fls; very pretty; 3 ft; HP | CAMP-71. | 20¢ |
| —Ladham's Strain. Giant flowered strain | CAMP-71L. | 25¢ |
| —Princess Royal. Deep blue variety | CAMP-71R. | 25¢ |
| —alba. Pretty white form of above; HP | CAMP-71W | 20¢ |
| Poscharskyana. Lovely pale blue s; July, 4"; HP | CAMP-78. | 25¢ |
| punctata. Many fls, white, spotted inside, 2 ft; HP | CAMP-86. | 25¢ |
| pyramidalis. (Chimney Bellflower). Fine for border; pale blue; 3 ft; HP | CAMP-87. | 20¢ |
| —Raineri. Solitary, erect blue fls; 3-4"; HP | CAMP-91(C). | 30¢ |
| rapunculoides. Vigorous persistent invading sp; fls violet-blue; 3 ft; HP | CAMP-95. | 25¢ |
| Rock Garden Sorts. Low growing types | CAMP-100. | 25¢ |
| Rapunculus. Lilac-blue fls in narrow racemes, 3 ft; HB | CAMP-96. | 15¢ |
| rotundifolia. (Harebell) Slender, graceful habit; fls pale blue; 1½ ft HP | CAMP-99. | 15¢ |
| —superba. Large flowered strain; 2 ft; HP | CAMP-99S. | 20¢ |
| —Olympic. Large beautiful deep lavender fls; 2 ft; HP | CAMP-99P. | 20¢ |
| thyrsoides. Erect, very leafy; fls yellowish, in spikes; 2 ft; HB | CAMP-121. | 25¢ |
| Tommasiniana. Fls nodding, violet; stem not upright; 1 ft; HP | CAMP-122. | 20¢ |
| Trachelium. Blue-purple fls, nodding, in loose racemes; 3 ft; HP | CAMP-124. | 25¢ |
| —trachelium album. White nodding fls in loose racemes; 3 ft; HP | CAMP-124W. | 30¢ |
| sarmatica. Very distinct dwarf sp; erect, violet nodding fls; 1-2 ft; HP | CAMP-103. | 25¢ |
| Sartori. Fls white, narrow bell-shaped; 10"; HP | CAMP-104. | 25¢ |

CERASTIUM. (se-RAS-ti-um) Mouse-ear. Caryophyllaceae.

These are excellent rock garden or edging plants, easily grown in ordinary soil. Usually mat forming, leaves silvery, with showy star-like flowers in May and June.

| | | |
|---|-------------|-----|
| —alpinum. White fls in summer; 6", RG; HP | CERS-1. | 20¢ |
| —lanatum. Fine cushion RG plant, silvery lvs; 1 in. white fls; HP | CERS-1L(W). | 30¢ |
| —Biebersteinii. Creeping; 6 in; white; May-June; HP | CERS-4. | 20¢ |
| —candidissimum | CERS-8(F). | 35¢ |
| —lanigerum. (Clem) | CERS-10(F). | 50¢ |
| —lanatum | CERS-10. | 25¢ |
| —moesiacum. (Fritv) | CERS-11(F). | 50¢ |
| —tomentosum. Snow-in-Summer. Creeping, fol silvery; fls white; RG; HP | CERS-13. | 20¢ |
| —uniflorum. White fls ½" ac in 1-3 fid cymes; 3"; HP | CERS-14(F). | 50¢ |

CLADRASTIS. (klad-RAST-iss) YELLOW-WOOD. Leguminosae.

N. Am. deciduous trees with flowers in panicle racemes followed by flattened pods. Ornamental and easily grown from spring planted seed. See also Maackia.

| | | |
|--|------------|-----|
| —lutea. To 50 ft; June; S. States Oz. 75¢; 4 Oz. \$1.75; lb. \$4.50. | CLAD-2(S). | 50¢ |
|--|------------|-----|

CODONOPSIS. (koh-doh-NOP-sis) Campanulaceae.

Perennials with shades of blue and yellow flowers with darker veins and blotches, a few climbers, and having a milky juice and heavy scent. Culture same as Campanulas but are not hardy in the North, requiring winter protection.

| | | |
|---|-----------|-----|
| —assuriensis | COD-2. | 25¢ |
| —clematidea. Bell-shaped fls with white and yellow center; 1'; HP | COD-1. | 20¢ |
| —meleagris. Fls drooping, greenish yellow, purple spots; erect; 18"; HP | COD-3(F). | 50¢ |
| —ovata. Solitary fls bell-shaped, blue; 1 ft; HP | COD-4. | 25¢ |
| —ovata. Semi-cl; soft blue bells; June; cool soil; sun | COD-4(W). | 30¢ |
| —viridiflora. Cl, yellowish green fls purplish dots base | COD-10. | 20¢ |

The letters C and W stand for cool and warm, above or below about 60 degrees F; D and L stands for dark and light, to keep the seed pan in a light or dark place when while germinating.

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

PANSY SEED

The following prices are to growers and in quantities of not less than an ounce. Orders should be placed as early as possible to assure your delivery, especially for separate varieties.

| PANSY SWISS GIANT: | per oz. | Per lb. |
|---|---------|---------|
| Extra Giant Choice Mixed | \$1.90 | 16.00 |
| Alpenglow. Rich cardinal-red | 1.90 | 18.00 |
| Ullswater. Rich light blue, deep blue margins | 1.90 | 18.00 |
| Berna. Velvety violet blue | 1.90 | 18.00 |
| Laura. Rosy lilac, pretty | 2.00 | 20.00 |
| Rhinegold. Golden yellow; dk bl | 1.90 | 18.00 |
| Yellow Master. Pure golden yellow | | |
| Compact; extra good | 2.00 | 20.00 |
| Claret. Wine red | 1.75 | 18.00 |
| Mont Blanc. Pure white | 1.70 | 18.00 |
| Silver Bride. White; dark blotch | 1.90 | 18.00 |
| Flame. Very nice orange-scarlet | 1.90 | 18.00 |
| Dwarf Giant Choice Mixed. A compact strain; large range | 2.00 | 22.00 |

PANSY TRICOLOR MAXIMA.

Masterpiece. With giant ruffled flowers; choice color range... 1.60 16.00

PANSY TRIMARDEAU.

Choice Mixed. For bedding... 1.60 13.00

PANSY GIANTS.

Felix. An excellent new mixture of giant flowered Pansies, each flower marked with dark "whiskers", so-called "Cat's Eye". 2.00 22.00

PIONEER SEED COMPANY

Dimondale, Michigan, U.S.A.

ROSE MULTIFLORA

Recently we suggested the use of multiflora rose for a fence. We asked for experiences from our readers but there was little response, however we have been wondering if they would not be invasive, especially where the soil is rich, as they root easily at the tips of the branches the same as black berries.

Possibly some reader has had experience on this matter?

RHODODENDRON CATAWBIENSE

This pretty Rhododendron is hardy in Southern Michigan when protected from cold winds but where hardy it is a beautiful plant in May and June.

The flowers are large, beautiful and in abundance; color lilac-purple and also white. Height 10 ft. and higher in some locations in the southern Appalachians; in Michigan it rarely exceeds five feet.

It requires a well drained, acid soil, a protected spot in the garden and you will have a beautiful plant.

Oak leaves for mulch in the fall and then worked into the soil in the spring is very beneficial and if you have had poor results with your Rhododendrons, this treatment may be the answer to your problem.

ERYNGIUMS FOR CUTTING

By Ann Hanley, B.C.

Eryngiums are flowers that last a long time after being cut and they can be included with the 'Everlastings'.

They are not difficult to grow from seed which should be started indoors in March. Any good well drained garden soil suits them.

Several species can be used. E. giganteum is the tallest and with bold foliage of a steel blue. E. amethystinum is dwarf, and E. alpinum and E. Oliverianum all possess the pretty blue metallic foliage and thistle-like blossoms. Plants can be started during the summer the same as nearly all perennial plants can be started.

Your July Garden Notes

These two columns have been reserved for your own garden record for the month. Make notes on what should be done next year at this time; new plants added this month and many other reminders that will be of value in your gardening operations. The SAIER'S GARDEN MAGAZINE is designed to be useful next year as well as this and copies will be valuable for future references. Indexes will be provided in later issues so that a quick reference can be made to items of interest, especially descriptions and culture.

Some Garden Notes

In our gardens, the Iris took first place at the beginning of the month on account of the numbers. We really should have had notes on the varieties but one point seems to be foremost and that is the importance of gardeners buying the more reasonably priced Iris; it is true that some of the new introductions are outstanding but most of the older varieties are still at the head of the list and should always be purchased before attempting the high priced varieties which often are not as good as they are at first claimed.

The Peony follows the Iris, and there is one point I noticed in particular this year and that is the value of Peonies as a cut flower. The blooms on the plants out doors had long been a thing of the past while the flowers that were in the house were still nice a week later.

We should have more garden notes on the many Dianthus in the garden but again work interfered but we just have transplanted out hundreds of Dianthus plumosus especially, and we look forward to their blooming, for they are all selections.

In passing the Iris today (June 24th) the Iris Clarkii is especially pretty on account of their seed pods; in a large Iris planting these should be used in groups near the walks to give some change after the flowers have all gone.

There are a few Penstemons in flower now that are so pretty that one wonders why they are so little planted in borders. P. grandiflorus is especially pretty; we have some crosses between this and P. Murryanus that are especially pretty. The color range is large and in bright colors; anyone interested in hybridizing is missing an opportunity here. P. Cobaea is another beautiful plant and again here there is great possibilities, the color range seems to be fairly large. P. barbatus is showy in beds with its showy flowers held high above the foliage. All these species seem to grow easily with us.

Another very pretty flower just now in bloom is Erigeron glabellus. If planted about 10-12 inches apart in a group of 15-20 plants it would make an attractive showing. It is about 15 inches high and the single daisy-like flowers with violet or blue petals are set off by the orange eye; we have some selections where the color of the petals are of a deeper color. *

When Alyssum is mentioned one thinks of either the annual sorts or A. saxatile but A. murale grows about 18 inches and just a mass of yellow; there are several species similar and all seem about alike.

The Tall Meadowrue is just starting to flower and for a fresh green color, topped with its showy white flowers, is hard to beat. It grows to 8 feet high and in groups of six or more it really make a show.

Much can be said in favor of making plantings in beds rather than in borders, especially where space is at a premium, as is the case with many. Formal beds require special treatment and where a certain plant will do, many others will not be proper.

Much of our plantings are in long beds, plantings in beds rather than in borders, can set any type of plant in any vacant space and still have an interesting lay-out.

One of the difficulties in the small garden is to find a suitable place for different plants but in the bed-type garden it is always an easy matter for one can just about plant where there is a vacant space and the garden is always more like a treasure chest, always interesting.

PERENNIALS TO PLANT NOW

CYANANTHUS. (cy-NAN-thus) Campanulaceae.

Small Himalayan plants, grown in the rock garden. They are related to Codonopsis but not climbing, flowering in late summer. Hold over first winter in pots; needs good growth first year.

- lobatus. One of the best; fls large blue, 6"; HP.....CYAN-4. 30¢
—microphyllus. (integer) Gay blue starry aut. fls; tr. stems; 2"; HP CYAN-8(B). 50¢

CYCLAMEN. (SIK-lam-en) Primulaceae.

Low greenhouse plants, some species hardy outdoors. The florist Cyclamen, *C. indicum*, is a very popular greenhouse pot plant.

CYCLAMEN INDICUM: Sow in Sept., requires 15-18 months for good 6-8" pot plants.

- Baardse's Wonder. Salmon with white border.....CYCL-9B. 50¢
—Bonfire. Brilliant salmon.....CYCL-9F. 50¢
—Glory of Wandsbeck. Dark crimson.....CYCL-9G. 50¢
—Rose of Marienthal. Soft rose with carmine eye.....CYCL-9M. 50¢
—Salmon-scarlet. Improved America.....CYCL-9S. 50¢
—White with Crimson Eye. Popular color.....CYCL-9E. 50¢
—White Wonder. Largest and best white.....CYCL-9W. 50¢
—New Ruffled, Mixed. Some should be in every planting.....CYCL-9RX. 50¢
—Rococo, Mixed. Extra large flowered strain.....CYCL-9CX. 50¢
—Cyclamen Blend. Hand made blend for greenhouse growing.....CYCL-X. 50¢
\$9.00 per 1,000 seeds.

CYCLAMEN SPECIES:

- europaeum. Bright red fls; fragrant; 4-5"; HP.....CYCL-6. 50¢
—neapolitum album. White hardy Cyclamen; autumn flowering; 4"; HP.....CYCL-12. 50¢

DELPHINIUM. (del-FIN-ee-um) LARKSPUR. Ranunculaceae.

A large number are showy garden flowers but the common garden forms make up the greater part of the plantings. Seed can be planted anytime for flowering plants the following year. Fresh seed can be had in August. Seed purchased should always be planted promptly upon receipt, otherwise it should be kept in your refrigerator. Seed pans should be placed in a warm and dark part of the room, with a nite temperature of around 60 degrees.

PLEASE NOTE: All Delphinium seed received from us should be either planted immediately or placed in a sealed jar and kept in the refrigerator till planting time.

PACIFIC GIANT SERIES: These are the most popular of all the American Delphiniums. They are about 65% mildew resistant and 100% double.

- Black Knight. Darkest violet with black bee; 2½" across.....DDEL-1K. 30¢
—Blue Bird. True blue with white bee.....DDEL-1B. 30¢
—Blue Jay. Clear medium to dark blue with dark contrasting bee.....DDEL-1J. 30¢
—Blue Shades. All the blue series with later varieties.....DDEL-1S. 30¢
—Camellard. Clear lavender self with white bee; 3" flowers.....DDEL-1C. 30¢
—Galahad. Giant white with white 3" flowers bee.....DDEL-1W. 30¢
—Guinevere. Clear pink-lavender self with white bee; 3" flowers.....DDEL-1G. 30¢
—King Arthur. Rich royal purple, large white bee.....DDEL-1A. 30¢
—Lancelot. Clear lilac self with white bee; a rare Delf color.....DDEL-1L. 30¢
—Percival. Large glistening white, strong contrasting black bee.....DDEL-1P. 30¢
—Round Table. All the colors plus many beautiful hybrids.....DDEL-1R. 30¢
—Summer Skies. Light heavenly blue with white bee.....DDEL-1S. 30¢
—Series Blend. Hand made blend of the above.....DDEL-1X. 30¢

ANY OF THE ABOVE SERIES: ¼ Oz. \$1.00; Ounce \$3.00; ¼ Lb. \$9.00.

- Blackmore and Landon Type. The English strain of giants.....DDEL-2L. 30¢
—Hollyhock Strain. California strain of light shades.....DDEL-2H. 30¢
—belladonna, True. Clear blue; these will do fine in hot sections.....DDEL-2B. 25¢
—Blue Grotto. Deep indigo-blue; 3 ft; excellent for cutting.....DDEL-2G. 25¢
—Cliveden Beauty. Lovely turquoise blue; excellent for cutting; 3 ft.....DDEL-2C. 25¢
—Improved. Deep blue.....DDEL-2V. 25¢
—bellomsum. Rich deep blue with white bee; 2" fls; cutting.....DDEL-2M. 25¢

D. CHINENSIS: While these are perennial they are best treated as annuals from early started seed. They are robust growers and rarely need staking; fine for cutting.

- Blue Mirror. NEW type; light blue, without spurs; facing upwards.....DDEL-3M. 25¢
—Blue Butterfly. Dwarf; ultramarine-blue; 12" tall.....DDEL-3B. 25¢
—White Butterfly. Blooms first year; white fls; for bedding or border.....DDEL-3Y. 25¢
—Azure Fairy. Dwarf; azure-blue; 12".....DDEL-3A. 25¢
—Cambridge Blue. Rich belladonna blue; 15".....DDEL-3C. 25¢
—Tall Blue. 24-30 inches tall; for cutting.....DDEL-3T. 25¢
—Tall White. 2-3 feet tall; white flowers; bedding or cutting.....DDEL-3W. 25¢
—Dwarf Mixed. Plants 1-1½ ft. tall.....DDEL-3DX. 25¢

DELPHINIUM SPECIES:

- bicolor. Erect western; 20 inches; blue; dies in summer.....DDEL-9. 25¢
—cardinale. Scarlet D. Erect, 2-3 ft; bright scarlet with yell w pet; 1".....DDEL-16. 25¢
—cashmerianum. Dw. Delphinium. Blue fls; 10"; RG; Himalayas; HP.....DDEL-20(B). 50¢
—cardinale. Scarlet D. Erect, 2-3 ft; bright scarlet with yell. petals.....DDEL-16. 25¢
—decorum. Deep purple fls; 4-6" for the rock garden.....DDEL-32. 30¢
—elatum. Candle Larkspur. To 6 ft; blue fls; HP.....DDEL-40(F). 50¢
—grandiflorum. Blooms first year; brilliant blue; RG; 1 ft; HP.....DDEL-46. 25¢
—incanum.....DDEL-52. 30¢
—macrocentron. From S. Rhodesia; 5' fls hanging blue or yellow 5 ft.....DDEL-58. 50¢
—mensiesii. Deep blue; western species; 4-6 ft; HP.....DDEL-59. 40¢
—nudicaule. Chamois. Long spurred; fine rock garden; 1 ft; HP.....DDEL-62C. 30¢
—Scarlet. Red Larkspur; 1 ft; HP.....DDEL-62S. 30¢
—orientale. Violet-purple; E. Europe; HA.....DDEL-65. 25¢
—orientale. Violet-blue; E. Europe; HA.....DDEL-65. 50¢
—paniculatum. Violet-blue fls; 3 ft; HA.....DDEL-69. 20¢
—Parryi. Deep blue; S. Calif; 3 ft.....DDEL-71. 30¢
—yunnanense. True sp. deep blue; long racemes; China; 3'; HP.....DDEL-104(F). 75¢
—Zallii. Primrose yellow fls; 2 ft; HP.....DDEL-105. 50¢

DICRANOSTIGMA. (die-kray-no-STIG-ma) Papaveraceae.

Plants from central Asia, orange or yellow flowers. Best in light soil.

- Franchetianum. Bright yellow fls; 1ft; HB.....DICR-1. 20¢

The use of the words Tender tree (TTr) indicates it is tender to cold or frost but when (HHTr) is used, it indicates that the tree, shrub (Sh) or plant is hardy farther North how far depending upon the plant, and may grow in Ohio or to Mich. or even to Minn.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

Boronia megastigma

By H. H. Craggs, New South Wales.

Boronia megastigma is one of our Australian most distinctive and popular native flowers and is practically the only *Boronia* brought into commercial cultivation, due to its most unique, distinctive and strong delicious perfume, and also to its comparatively easy cultivation, if the reasonable care is taken.

It is a native of the depressions in the Jarrah Forests of South Western Australia, an area where there is a well distributed rainfall.

It is a small tufted plant, or a tall straggling shrub, according whether it is grown under conditions of light or shade, and is found growing in sandy, light, well drained soils of an acid nature. These conditions give us a clue to its preferences.

If the right conditions are made available, it is comparatively easy to grow and it lives for years, otherwise they are considered difficult and short lived, plants dying out for no apparent reason.

It is considered essential to provide the following conditions: grow the plant in light sandy soil of an acid nature, which must be particularly well drained and free from all forms of lime, which they strongly resent (as wood ashes). No fresh or artificial manure should be given to them. The roots must not on any account be disturbed in any way and the soil should not be dug up around the plants. Further, the soil should be kept moist during summer and other hot dry spells and they should never be allowed to dry out. Mulch the plants heavily, preferably with acid forming materials, as leaves, peat, tan-bark, etc. This mulching automatically provides many essentials, as it normally discourages digging around the plants, keeps the roots cool in hot weather, provides food for the plant, prevents rapid drying out of the soil, and keeps it moist during summer.

These plants should be grown in well sheltered positions and protected from very hot and cold winds which are fatal to them. Grow in light, partial shade, or semi-shaded positions.

Again these plants must be heavily cut back after flowering. Remove two thirds of the plant immediately flowers begin to fade, or as soon as possible afterwards, otherwise the plants are short lived.

Generally all seeds are hard coated, and if so, such should be soaked in hot water for about four days (renewing the hot water each night) before sowing. Sow seed in light sandy peat loam, about three parts sand to one part leaf-mould or peat. Keep under shelter and lightly shaded in a cool place, temperature around 50 degrees Far. is generally recognized as best. When only half an inch high, (1-3" OK) prick out into small pots or tins and keep semi-shaded until well grown; harden off before transplanting. In hot inland districts it is best to sow the seed in autumn, otherwise spring. At all times shade and protect seedlings from excessive heat.

Few plants survive transplanting if allowed to grow to any size. Do not transplant plants that have reached or nearly reached flowering stage.

It is essential to transplant to permanent positions when quite young, and when only inches high, and then without disturbing the roots as much as possible. In dry areas, it is an advantage to make an earthen ring approximately 2-3 feet in diameter

(Continued on Page 256)

PERENNIALS TO PLANT NOW

DIANTHUS. (die-ANTH-us) PINKS, CARNATIONS. Caryophyllaceae.

A very large genus with many horticultural varieties. They are rather hardy and range in height from very low plants to 2-3 feet. They all do best in rather good garden soil, well drained and some even in raised beds. One thing in common in never to cover the tops with a winter mulch. Shearing the plants in the fall or early spring tends to keep them in shape. The annual sorts should be started early indoors and the perennials anytime up to August. We will list them by the species in the following list.

DIANTHUS BARBATUS: Sweet William. While they are perennials they are best grown as biennials; 1-2 ft. tall; make cutflowers late in the season.

- auricula-eyed, mixed. All with large white eye..... DIAN-17AX. 25¢
- Dunnettii. Blood-red fls; best in this type..... DIAN-17D. 15¢
- Harlequin. White, rose and red shades on same head; pretty..... DIAN-17H. 15¢
- Holborn Glory. Very large fls; white eye and white margins..... DIAN-17B. 15¢
- Hunt's Perfection. Auricula-eyed flowers; fine..... DIAN-17P. 15¢
- Johnson's Diadem. Brilliant dark scarlet with large white eye..... DIAN-17J. 15¢
- Newport Pink. Beautiful single salmon-rose..... DIAN-17N. 15¢
- Pink Beauty. Charming strain in shades of salmon-pink..... DIAN-17L. 15¢
- Purple Beauty. Deep purple, single flowers..... DIAN-17L. 15¢
- Scarlet Beauty. Brilliant scarlet variety..... DIAN-17C. 15¢
- Single Dark Crimson..... DIAN-17C. 15¢
- White Beauty. Pure white..... DIAN-17W. 15¢
- Single Annual Mixed. Fls first season; start early..... DIAN-17A. 20¢
- Dwarf Double Mixed. A one foot tall strain..... DIAN-17WX. 15¢
- Double Mixed..... DIAN-17DX. 15¢
- Sweet William Blend. All varieties and types..... DIAN-17X. 15¢

D. caryophyllus: The various types of Carnations come under this species. Most of are not real hardy in the far North but can be grown never the less in many gardens with some protection. Space plants 1 ft. apart and get them well started before winter.

—Giant Perpetual. Clove Pink. Largest; in all colors..... DIAN-12P. 25¢

CHABAUD'S CARNATIONS: Everblooming Carnations. Sow seed in Jan.-Feb. One of the best hardy outdoor Carnations.

- Cardinal Red. Beautiful shade..... DIAN-12C. 25¢
- Deep Rose..... DIAN-12Z. 25¢
- Double Rose. Extra choice double rose Carnation..... DIAN-12GZ. 20¢
- Jeanne Dionis. Pretty pure double white..... DIAN-12J. 25¢
- Enfant de Nice, Mixed. Beautiful strain, 75% true; 90% double..... DIAN-12E. 25¢
- Etoile de Hollande. Bright scarlet; 90% double..... DIAN-12T. 25¢
- Giant de Nice. Robust giants, 90% double..... DIAN-12G. 25¢
- Legion of Honor. Salmon rose..... DIAN-12L. 25¢
- Marie Chabaud. Pure yellow..... DIAN-12N. 25¢
- Nero. Blood-red flowers..... DIAN-12N. 25¢
- Rose Queen. One of the best rose colors..... DIAN-12Q. 25¢
- Ruby. Dark red..... DIAN-12R. 25¢
- Simons Thimble. A beautiful double hardy Carnation in all colors; this is a very superior strain..... DIAN-12SM. 15¢
- Striped. Flowers striped red..... DIAN-12S. 25¢
- Teicher's Strain. High class Carnation strain..... DIAN-12T. 25¢
- Tige de Fer, Mixed. Iron stem Carnations..... DIAN-12F. 25¢
- Dwarf Single Mixed..... DIAN-12SX. 15¢
- Mauser Strain. A superior German strain; very good..... DIAN-12MX. 30¢
- Carnation Blend. Many types and strains..... DIAN-12X. 25¢

- chinensis. Rainbow P. Grow as annual; single fls; HA..... DIAN-13. 15¢
- Imperator. Double strain giant flowers, HA..... DIAN-13P. 20¢
- nobilis. Very pretty form..... DIAN-13N. 20¢
- Heddewigii. Hardy annual Pinks, mixed..... DIAN-13HX. 15¢
- Dwarf Single Mixed..... DIAN-13DX. 15¢
- Mourning Cloak. Dark purple with lained edges..... DIAN-13HM. 15¢
- Salmon Shades..... DIAN-13SS. 15¢
- Fireball. Double deep sarlet..... DIAN-13HF. 15¢
- Lacinated, Mixed..... DIAN-13HL. 15¢
- Snowball. White lacinated flowers..... DIAN-13HS. 15¢
- Westwood Beauty. Pretty scarlet variety..... DIAN-13WB. 20¢
- Finest Double Mixed..... DIAN-13DX. 20¢
- splendens. Large flowered strain..... DIAN-13S. 15¢

GRENADIN CARNATIONS: Hardy border Carnations growing 15" tall. Excellent for the general garden growing where the Carnation type is wanted.

- King of the Blacks. Dark velvety brown..... DIAN-12GK. 15¢
- Rosy Morn. Pretty rose colored variety..... DIAN-12GR. 15¢
- Scarlet Morn. Best red variety..... DIAN-12GS. 15¢
- Tausendschon. Delicate rose to salmon-rose; excellent..... DIAN-12GT. 15¢
- White Queen. Pure white..... DIAN-12GW. 15¢
- Yellow Queen. Best yellow variety..... DIAN-12GY. 15¢
- Grenadin Carnation Blend..... DIAN-12GX. 15¢
- Giant Malmaison. Largest, fragrant, most satisfactory for garden..... DIAN-12GM. 30¢

MARGARET CARNATIONS: Considered the most satisfactory Carnation for the average garden. It is early and, except where the winters are severe, it will live 3-4 years. If started real early in the spring, flowers can be had the first year.

- Red Marge. Best red variety..... DIAN-12MR. 15¢
- Yellow Marge..... Best pure yellow variety..... DIAN-12MY. 15¢
- Rosy Marge. Rosy pink variety..... DIAN-12MZ. 15¢
- White Marge. Best pure white variety..... DIAN-12MW. 15¢
- Margaret Carnation Blend..... DIAN-12MX. 15¢
- Raviera Market. Showy blend of large double flowers..... DIAN-12MV. 25¢

HARDY DWARF CARNATIONS: These are biennial but best treated as annuals, and if started fairly early will give an excellent show by summer. They are early, fine bloomers, double and in bright colors, 15" high. Excellent for bedding.

- Dwarf Vienna, White. Pure white variety..... DIAN-12VW. 20¢
- Rose. Best pure rose colored variety..... DIAN-12VZ. 20¢
- Mixed..... DIAN-VX. 20¢

HYBRID PINKS: All the crosses in Dianthus are listed here. They all are very nice and should be in every border planting.

- Heddewigii Hybrids. Double fls, mixed colors..... DIAN-68H. 20¢
- Sweet Wivelsfield. Distinct race; various shades; very good; 12"; HP..... DIAN-68W. 15¢
- La Bourbrille. Very dwarf silver mats; pink fls; 12"; HP..... DIAN-68B. 25¢
- Schonheit. Cross of heddewigii x chinensis; very pretty blood-red..... DIAN-68S. 20¢

DIANTHUS: Continued on Page 257.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

Boronia megastigma

(Continued from Page 255)

around the plant. Fill this ring to the depth of several inches with partially decomposed leaves, peat, grass and such material. Hand weed when necessary. To water, partly fill this earthen ring, say every ten days in dry weather.

Although these plants are often seen and do grow in the open and in heavy soils they generally are found to suddenly die out or are short lived.

Generally, all native plants should be grown as in their natural state, and with the exception of desert plants, in semi- or partial shade of some kind.

Editor's Note: It is not often that we get such an informative article on a flower as this one from Mr. Craggs of New South Wales. We would like to have pictures whenever possible and if the negative is sent we will return it promptly. A very important point in all such articles is how and where is the plant best used by the average flower grower; what is the best use to be made of it.

We would be pleased to print more such articles and hope our readers will make it a point to pass along some of their findings for the interest and help that other readers will get from them.

THESPIA POPULNEA

One of the "tree-hibiscus" group. They are evergreen trees growing to twenty-five feet and bearing yellow hibiscus-like flowers in the morning that turn purple by evening as they close and fade.

They are planted throughout the tropics as a street tree. They also resist salt spray from the ocean.

GERMINATING DELPHINIUMS

IN THE DARKNESS

We have especially noticed the reaction in germinating Delphiniums. Seed that was 10 years old germinated perfectly when kept in the dark; of course the seed was properly stored as well as harvested.

PERENNIAL FLOWER SEED

(Continued from Page 249)

- Selected Giants 50 3.00
- THALICTRUM adiantifolium..... 60 5.00
- aquilegifolium 80 8.00
- diptercarpum 70 7.00
- THYMUS serpyllum 1.75 14.00
- TRITOMA Early Hybrids 1.20 11.00
- VIOLA Choe Mixed 1.25 11.00
- Scotch Hybrids 1.60 12.00

(NOTE: This list is made up prior to the harvest of most of these seeds and thus shipments will be made as soon as the new crop is in. These prices are only good as far as the crop contracted. On late order, when these seeds are sold out, the prices will be 25% or more higher; order NOW.

PIONEER SEED COMPANY

Dimondale, Michigan.

DIANTHUS SWEET WIVELSFIELD

They are a hardy race of annual Pinks that flower from June to October.

They are the result of a cross between Dianthus Allwoodii and Sweet William, (Dianthus barbatus).

Usually this sort of a cross between two distinct races, produces plants that do not come true from seed but in this particular cross the seed comes true.

THE ALLWOODII DIANTHUS

Dianthus Alwoodii is the result of many crosses between the Border Carnations and *Dianthus plumarius*. The idea in its development was to get a strain from the latter having its hardiness but a perpetual flowering Pink.

Most *Dianthus* are not perpetual in flowering, as is the case in Carnations. To get a *Dianthus* as hardy as *Dianthus plumarius* and that would flower spring, summer and fall, would be a highly desirable Pink.

Where special colored flowers are wanted, they usually are started from cuttings or layers, made in the summer and as soon as rooted, transplanted direct to the out doors.

To prevent flowers forming in the fall, pinch off the end of the shoots at the sixth pair of leaves. This will develop a strong plant that will begin to flower the next May (in the North in early June).

Disbudding is not necessary and when cutting the flowers, it is best to cut long stems, which is better for the plant. Long stemmed flowers will also last a much longer time, when cut, and many of the side buds will open in water.

The common practice in starting *Dianthus Alwoodii* is from seed. Seed started in the summer will also give plants of the same size and for the next years bloom.

In September cut back any old stems to within six inches of the ground and do not mulch these plants in any way. It is wise to press the plants into the soil after each hard freeze and thaw, if any have been lifted out.

For those having greenhouses, the plants should be kept pinched back during the summer, then in September lift the plants, removing as little soil as possible and pot up in 6-inch pots, using a good loam to which some lime and well rotted manure have been added. Keep the plants in the open till October, in fact they will be best if not brot in till January. A good cold frame is ideal for this purpose.

Start housing a batch of pots in January in a 45 degree F house and do the same in February and March for a succession of bloom. In case you have neglected to pot the plants in September, the next best is to lift plants from the field in February, pot and place in the greenhouse. Of course, not as good results will be had in this method.

Dianthus Alwoodii should be planted in window boxes that get the full sunshine. Plants should be started in the summer and the buds kept pinched off. These, if potted, can be put into the boxes in March or plants can be lifted from the garden and placed direct to the window box, in May. There are few flowers that will equal them for a continuous bloom.

DIANTHUS and CARNATION FOOD

A slow acting organic fertilizer is always best; never use a highly concentrated chemical fertilizer.

Nitrogen, if in excess, can be very harmful to *Dianthus*. Usually a well rotted manure worked in as a mulch, gives the best results. Do this each month during the growing season but do not over do. Always keep in mind that anything that tends to make the soil acid will be harmful.

It is best to apply any application of lime in the early spring or late in the fall.

Liquid manure made from rotted manure is best where it is necessary to apply this sort of fertilizer, especially to potted and benched plantings.

PERENNIALS TO PLANT NOW

DIANTHUS: Continued from Page 256.

PLUMARIUS: Grass or Clove Pinks. This is one of the best species for the border. They grow about 12" tall and in both double and single flowers; the singles make a beautiful display in the front of the border. They come in white and all shades of pink and red, with contrasting eye. They are all real hardy; all perennials; germinate in 5 days.

- cyclops. Dark rose shades with carmine ring; extra choice..... DIAN-99SC. 20¢
- nanus fl. pl. mixed. Best dwarf strain in double flowers..... DIAN-99NX. 20¢
- Dwarf Harlequin. Single perpetual Pinks; very pretty; mixed..... DIAN-99DH. 20¢
- Jumitzeri. A form of *D. plumarius*..... DIAN-99L. 25¢
- Mayflower. Early dwarf double, nice blend of colors..... DIAN-99M. 20¢
- Mrs. Sinkins. Pure double white..... DIAN-99K. 30¢
- Pheasant's Eye Mixed. A French strain of single pinks; mixed..... DIAN-99P. 20¢
- Perpetual Dwarf Harlequin. White, rose and red fls on same stem..... DIAN-99H. 20¢
- Rose of May. Large double rose; 6"; HP..... DIAN-99Z. 20¢
- semperflorens. A Hortutan Pink..... DIAN-99S. 20¢
- Dwarf Double Mixed. Low growing *D. plumarius*..... DIAN-99WX. 15¢
- Double Mixed..... DIAN-99DX. 25¢
- Single Mixed..... DIAN-99SX. 20¢
- Scoticus Mixed. Special florist strain, many colors with bright eye..... DIAN-99S. 25¢
- Florist Strain. Perpetual Pinks; extra strain for cutting Oz. 55¢..... DIAN-99SF. 20¢
- D. Plumarius Blend. All kinds mixed..... DIAN-99X. 25¢

DIANTHUS SPECIES: The largest list of *Dianthus* published anywhere!

- Allwoodii. Hybrid in good color range, similar to *D. plumarius*; HP..... DIAN-2. 25¢
- alpinus. Fls deep rose-crimson with eye, 1½" ac; 4"; HP..... DIAN-5(F). 50¢
- alpinus. Fls 1½" ac; on stems 2-4 in. high; various colors with eye; HP..... DIAN-5. 20¢
- albus. A very nice white form..... DIAN-5A. 25¢
- anatolicus. Cespitose; fls rose; 1 ft; HP..... DIAN-6. 25¢
- arenarius. Fringed fls, frag., white, cream, pink; 6"; HP..... DIAN-9. 20¢
- arvensis. (Rou). Small cespitose plant, 4" tall; pink; hybrid..... DIAN-9(F). 50¢
- brachyanthus. 9" tufted; fls small rose; RG; HP..... DIAN-22(F). 50¢
- caesius: see *D. gratianopolitanus*.
- carthusianorum. Clusterheads like Sw. Wm. many colors; 20"; HB..... DIAN-11(F). 30¢
- giganteus (Urv)..... DIAN-11G(F). 50¢
- pumilus. (Shur)..... DIAN-11P(F). 50¢
- saxigenus. (L.)..... DIAN-11S(F). 50¢
- silvesterv. v. subcaulis. (Koch)..... DIAN-11L(F). 50¢
- tenuifolius. (Schur)..... DIAN-11T(F). 50¢
- vaginatus. (Hegi)..... DIAN-11V(F). 50¢
- carthusianorum v. tristis. Clusterhead; collected in Bosnia..... DIAN-11T. 30¢
- cruentus. (Greiseb) Blood-red terminal fls on 18" stems; HP..... DIAN-43(F). 50¢
- creuntus. Blood-red fls; 18 in; HP..... DIAN-43. 25¢
- crinatus. Solitary white fls; 12"; HP..... DIAN-40. 25¢
- deltoides. Maiden Pink. Small rosy purple fls; turf type; 6"; HP..... DIAN-45. 15¢
- Bowl's Variety. Bronze foliage, vivid carmine fls; HP..... DIAN-45B. 20¢
- Bowl's Variety. Dark fol in prostrate mats; crimson fls; HP..... DIAN-45B(W). 30¢
- Stern's Variety..... DIAN-45S. 25¢
- Brilliant. A brilliant rich rose-pink; 6"; HP..... DIAN-45L. 15¢
- erecta. Crimson fls on short erect stems, extra good for RG..... DIAN-45E. 20¢
- Freynii. Alpine; solitary bright pink; Herzegovina; HP..... DIAN-51(C). 30¢
- furcatus. (Bla) Fls solitary, rose, ½" ac; Alps; pretty; 9"; HP..... DIAN-53(F). 50¢
- furcatus. Pretty plant, solitary rose fls; Italian Alps; 9 in; HP..... DIAN-53(C). 50¢
- fragrans. Fragrant rose-white and spotted fls; Caucasus; 18 in; HP..... DIAN-50(C). 30¢
- giganteus: see *D. carthusianorum*.
- graniticus. True; fls 1 in. ac; purple; Pyrenees; 6 in; HP..... DIAN-58. 30¢
- gratianopolitanus. Cheddar Pink; mat-forming; 8 in; showy rose; HP..... DIAN-59. 30¢
- Hoppil. White fls tinged pink deeply lacinated; cusion; HP..... DIAN-66. 50¢
- hyssopifolius. (monspessulanus) Deeply fringed, frag.; mixed col; 1"; HP..... DIAN-67. 15¢
- Kilaubellii..... DIAN-70. 30¢
- Knappii. Lemon yellow; the only yellow *Dianthus*..... DIAN-71. 20¢
- latifolius. Erect; 12"; rose-dark red; HP..... DIAN-73. 25¢
- latifolius atrococcineus. Erect, double, glowing crimson; 12"; HB..... DIAN-73A. 15¢
- Liboschitzianus. White fls; Caucasus; 12"; HP..... DIAN-76. 25¢
- monspessulanus: name changed to *D. hyssopifolius* which see.
- nardiiformis. Cespitose; rose fls; 6"; HP..... DIAN-87. 25¢
- nardiiformis. RG; 6" high; fls rose in fascicles; HP..... DIAN-87(F). 50¢
- neglectus. Glacier Pink. Small crimson-pink with lighter eye..... DIAN-89.25¢
- Noeanus. Densely tufted; white small frag. fls; 10 in; HP..... DIAN-91(C). 50¢
- praecox..... (Kit)..... DIAN-100(F). 50¢
- prolifer. Little carmine-pink fls, small heads; HA; 1 ft; RG..... DIAN-101. 25¢
- Roiyii. Variable; showy small Pink with lge deep rose fls; HP..... DIAN-108(F). 50¢
- Roiyii. Showy tufted small pink with large deep rose fls; HP..... DIAN-108(C). 50¢
- Seguieri. Variable type of *D. chinensis*..... DIAN-111(C). 40¢
- Sternbergii. Rose and spotted; fragrant; Alps; HP..... DIAN-118. 35¢
- strictus v. integer..... Small white fls; 10 in; HP..... DIAN-119T. 25¢
- superbus. Red fls excellent cut; 24 in; HP..... DIAN-125. 25¢
- subcaulis. (Vill)..... DIAN-120(F). 50¢
- Sundermannii. (Born) More showy than *D. strictus*; Greece; HP..... DIAN-121(F). 50¢
- tenuifolius: see *D. carthusianorum*.
- tristis. (Vel) Clusterhead; purple; 16"; Bulgaria; HP..... DIAN-132(F). 50¢
- subneglectus: see *D. carthusianorum v. pumilus*.

- Dianthus Blend. Made up of over 100 different kinds of Pinks..... DIAN-X. 15¢
- Dianthus Species Mixed. A mixture of the rarer species..... DIAN-XS. 25¢
- Rare Rock Garden Species. Many species mixed; for the rockery..... DIAN-RX. 25¢
- Ingwersen's Mixed Pinks. Seed saved from their collection of lovely garden Pinks; This English collection contains many new types and varieties..... DIAN-XW. 30¢

DICTAMNUS. (dik-TAM-nus) Fraxinella, Gas Plant, Burning Bush. Rutaceae.

A garden favorite that makes large clumps with good sized and showy flowers with a strong lemon scent. They dislike transplanting and enjoy a rich soil. Seeds germinate very slowly.

- albus. The white flowered species HP..... DICT-1. 25¢
- v. purpureus. A dark flowered variety..... DICT-1P. 25¢
- rubra. Rosy purple fls; 3 ft; HP..... DICT-1R. 25¢

We intend the classifications to be correct, even to the capitalization of the species names and will appreciate any corrections. Index will appear in a near future issue. Bb means bulb; Tr, tree; Sh, shrub; T, frost tender; W white; lvs, leaves Cl, climber.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

